Ballfields Parcels at DoDHF Novato, CA Data Validation Reports LDC# 13575

Metals



Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Ballfields Parcels at DoDHF Novato, CA

Collection Date: April 6, 2005

LDC Report Date: June 8, 2005

Matrix: Soil

Parameters: Metals

Validation Level: NFESC Level III

Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K2502497

Sample Identification

TO63-R2-SB04-0-0.5 TO63-R2-SB04-0-0.5MS TO63-R2-SB04-3-4 TO63-R2-SB04-0-0.5DUP TO63-R2-SB01-0-0.5 TO63-R4-SB04-0-0.5DUP TO63-R2-SB01-0-0.5 Dup

TO63-R2-SB01-0-0.5 Dup TO63-R2-SB01-1-2 TO63-R1-SB04-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-4-5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-4-5

TO63-R5-SB04-0-0.5

TO63-R5-SB04-5-6

TO63-R5-SB02-0-0.5 TO63-R5-SB02-3-4

TO63-R5-SB01-0-0.5

TO63-R5-SB03-0-0.5

TO63-R2-SB03-0-0.5

TO63-R2-SB02-0-0.5

Introduction

This data review covers 24 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010, 7000 and EPA Method 200.8 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

The review follows the Final Sampling and Analysis Plan for Preliminary Assessment/Site Investigation of Ballfields Parcels at DoDHF Novato, California, (March 23, 2005) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Mercury	0.02 mg/Kg	All samples in SDG K2502497
ICB/CCB	Mercury Nickel Silver Thallium	0.16 ug/L 0.14 ug/L 0.009 ug/L 0.005 ug/L	All samples in SDG K2502497

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R2-SB04-0-0.5	Mercury	0.04 mg/Kg	0.04U mg/Kg
TO63-R2-SB04-3-4	Mercury	0.08 mg/Kg	0.08U mg/Kg
TO63-R2-SB01-0-0.5	Mercury	0.09 mg/Kg	0.09U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R2-SB01-0-0.5 Dup	Mercury	0.09 mg/Kg	0.09U mg/Kg
TO63-R2-SB01-1-2	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R1-SB04-0-0.5	Mercury	0.09 mg/Kg	0.09U mg/Kg
TO63-R1-SB04-4-5	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R1-SB03-4-5	Mercury	0.05 mg/Kg	0.05U mg/Kg
TO63-R4-SB04-0-0.5	Mercury	0.05 mg/Kg	0.05U mg/Kg
TO63-R4-SB04-4-5	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R5-SB04-0-0.5	Mercury	0.04 mg/Kg	0.04U mg/Kg
TO63-R5-SB04-5-6	Mercury	0.07 mg/Kg	0.07U mg/Kg
TO63-R5-SB02-0-0.5	Mercury	0.04 mg/Kg	0.04U mg/Kg
TO63-R5-SB02-3-4	Mercury	0.07 mg/Kg	0.07U mg/Kg
TO63-R5-SB01-0-0.5	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R5-SB03-0-0.5	Mercury	0.05 mg/Kg	0.05U mg/Kg
TO63-R2-SB03-0-0.5	Mercury	0.07 mg/Kg	0.07U mg/Kg
TO63-R2-SB02-0-0.5	Mercury	0.10 mg/Kg	0.10U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB03-4-5 TO63-R4-SB04-4-5 TO63-R5-SB04-5-6 TO63-R5-SB02-3-4 TO63-R2-SB02-0-0.5	Molybdenum	This metal was not spiked in ICSAB.	This metal is potentially affected by common interferents and should be spiked in ICSAB.	J (all detects) UJ (all non-detects)	Р

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
TO63-R2-SB04-0-0.5MS (All samples in SDG K2502497)	Antimony	29 (70-130)	J (all detects) R (all non-detects)	Α
TO63-R4-SB04-0-0.5MS (All samples in SDG K2502497)	Antimony	33 (70-130)	J (all detects) UJ (all non-detects)	Α

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
TO63-R4-SB04-0-0.5DUP (All samples in SDG K2502497)	Nickel	34 (≤30)	-	J (all detects) UJ (all non-detects)	Α

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not reviewed for this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
TO63-R5-SB02-3-4L	Vanadium	12 (≤10)	All samples in SDG K2502497	J (all detects)	А

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

Samples TO63-R2-SB01-0-0.5 and TO63-R2-SB01-0-0.5 Dup and samples TO63-R1-SB01-0-0.5 and TO63-R1-SB01-0-0.5Dup (from SDG K2502499) were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra	tion (mg/Kg)	
Analyte	TO63-R2-SB01-0-0.5	TO63-R2-SB01-0-0.5 Dup	RPD
Antimony	0.13	0.14	7
Arsenic	3.70	3.04	20
Barium	62.8	123	65
Beryllium	0.82	1.04	24
Chromium	114	78.3	37
Cobalt	15.5	27.0	54

	Concentra	tion (mg/Kg)	
Analyte	TO63-R2-SB01-0-0.5	TO63-R2-SB01-0-0.5 Dup	RPD
Copper	42.3	27.2	43
Lead	19.2	12.3	44
Mercury	0.09	0.09	0
Nickel	57.1	41.6	31
Selenium	0.4	0.4	0
Silver	0.380	0.681	57
Thallium	0.166	0.120	32
Vanadium	94.7	68.1	33
Zine	101	73.8	31

XIV. Field Blanks

No field blanks were identified in this SDG.

Ballfields Parcels at DoDHF Novato, CA Metals - Data Qualification Summary - SDG K2502497

SDG	Sample	Analyte	Flag	A or P	Reason
K2502497	TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB03-4-5 TO63-R4-SB04-4-5 TO63-R5-SB04-5-6 TO63-R5-SB02-3-4 TO63-R2-SB02-0-0.5	Molybdenum	J (all detects) UJ (all non-detects)	Р	ICP interference check
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 TO63-R1-SB04-0-0.5 TO63-R1-SB04-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-4-5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB02-0-0.5 TO63-R5-SB02-0-0.5 TO63-R5-SB02-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5	Antimony	J (all detects) R (all non-detects)	A	Matrix spike analysis (%R)
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 TO63-R1-SB04-0-0.5 TO63-R1-SB04-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-4-5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB02-3-4 TO63-R5-SB02-3-4 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5	Antimony	J (all detects) UJ (all non-detects)	Α	Matrix spike analysis (%R)

SDG	Sample	Analyte	Flag	A or P	Reason
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 Dup TO63-R1-SB01-1-2 TO63-R1-SB04-0-0.5 TO63-R1-SB01-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB02-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5	Nickel	J (all detects) UJ (all non-detects)	A	Duplicate analysis (RPD)
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 TO63-R1-SB01-1-2 TO63-R1-SB04-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-0-0.5 TO63-R5-SB02-0-0.5 TO63-R5-SB02-0-0.5 TO63-R5-SB02-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5 TO63-R5-SB03-0-0.5	Vanadium	J (all detects)	Α	ICP serial dilution (%D)

Ballfields Parcels at DoDHF Novato, CA Metals - Laboratory Blank Data Qualification Summary - SDG K2502497

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502497	TO63-R2-SB04-0-0.5	Mercury	0.04U mg/Kg	А
K2502497	TO63-R2-SB04-3-4	Mercury	0.08U mg/Kg	Α
K2502497	TO63-R2-SB01-0-0.5	Mercury	0.09U mg/Kg	А

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502497	TO63-R2-SB01-0-0.5 Dup	Mercury	0.09U mg/Kg	А
K2502497	TO63-R2-SB01-1-2	Mercury	0.06U mg/Kg	А
K2502497	TO63-R1-SB04-0-0.5	Mercury	0.09U mg/Kg	А
K2502497	TO63-R1-SB04-4-5	Mercury	0.06U mg/Kg	А
K2502497	TO63-R1-SB03-4-5	Mercury	0.05U mg/Kg	Α
K2502497	TO63-R4-SB04-0-0.5	Mercury	0.05U mg/Kg	А
K2502497	TO63-R4-SB04-4-5	Mercury	0.06U mg/Kg	А
K2502497	TO63-R5-SB04-0-0.5	Mercury	0.04U mg/Kg	А
K2502497	TO63-R5-SB04-5-6	Mercury	0.07U mg/Kg	А
K2502497	TO63-R5-SB02-0-0.5	Mercury	0.04U mg/Kg	А
K2502497	TO63-R5-SB02-3-4	Mercury	0.07U mg/Kg	А
K2502497	TO63-R5-SB01-0-0.5	Mercury	0.06U mg/Kg	А
K2502497	TO63-R5-SB03-0-0.5	Mercury	0.05U mg/Kg	Α
K2502497	TO63-R2-SB03-0-0.5	Mercury	0.07U mg/Kg	А
K2502497	TO63-R2-SB02-0-0.5	Mercury	0.10U mg/Kg	Α

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INORGANIC ANALYSIS DATA SHEET

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB04-0-0.5

Lab Code: K2502497-001

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N	Ċ
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	2.23			1
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	244			1
Beryllium	6010B	1.12	0.03	2	4/14/05	4/28/05	0.80	В		1
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	Ū		1
Chromium	6010B	2.24	0.56	2	4/14/05	4/28/05	14.7			ĺ
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	10.3			İ
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	4.7			1
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	9.68			ĺ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.04			1ν
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U		Ì
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	19.4		*	IJ
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	В		١
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.336			ĺ
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.083			
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	23.8			IJ
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	27.2			ĺ

% Solids: 88.4

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INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB04-3-4

Lab Code: K2502497-002

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.09		N	ij
Arsenic	200.8	0.47	0.05	5	4/14/05	4/22/05	8.28			İ
Barium	6010B	0.9	0.2	2	4/14/05	4/28/05	39.9			ĺ
Beryllium	6010B	0.95	0.03	2	4/14/05	4/28/05	0.51	В		İ
Cadmium	6010B	0.9	0.1	2	4/14/05	4/28/05	0.1	Ū		İ
Chromium	6010B	1.90	0.47	2	4/14/05	4/28/05	96.9			İ
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	10.4			İ
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	36.0			İ
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.1			İ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.08			ĺυ
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	U		u
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	39.8		*	J
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.5	В		
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.119			ĺ
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.157			
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	79.5			J
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	83.0			

% Solids: 57.9

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INORGANIC ANALYSIS DATA SHEET

Battelle Memorial Institute Client:

Service Request: K2502497

Project No.: G486063

Matrix:

Date Collected: 04/06/05

Project Name: Novato Ballfields SOIL

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB01-0-0.5

Lab Code: K2502497-003

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N	J
Arsenic	200.8	0.55	0.05	5	4/14/05	4/22/05	3.70			1
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	62.8			Ì
Beryllium	6010B	1.10	0.03	2	4/14/05	4/28/05	0.82	В		1
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U		Ì
Chromium	6010B	2.19	0.55	2	4/14/05	4/28/05	114			Ì
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	15.5			Ì
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	42.3			ĺ
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	19.2			İ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.09			W
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	υ		UJ
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	57.1		*	ナ
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.4	В		ĺ
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.380			
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.166			
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	94.7			J
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	101			

% Solids: 64.7

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INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502497

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: T063-R2-SB01-0-0.5 DUF Lab Code: K2502497-004

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.14		N	IJ
Arsenic	200.8	0.51	0.05	5	4/14/05	4/22/05	3.04]
Barium	6010B	1.0	0.2	2	4/14/05	4/28/05	123]
Beryllium	6010B	1.03	0.03	2	4/14/05	4/28/05	1.04]
Cadmium	6010B	1.0	0.1	2	4/14/05	4/28/05	0.1	Ū]
Chromium	6010B	2.06	0.52	2	4/14/05	4/28/05	78.3			Ī
Cobalt	6010B	2.1	0.3	2	4/14/05	4/28/05	27.0			1
Copper	6010B	2.1	2.1	2	4/14/05	4/28/05	27.2			
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	12.3			Ì
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.09			M
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/28/05	2.1	U		
Nickel	200.8	0.20	0.04	5	4/14/05	4/22/05	41.6		*	J
Selenium	200.8	1.0	0.1	5	4/14/05	4/22/05	0.4	В		
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.681			
Thallium	200.8	0.020	0.002	5	4/14/05	4/22/05	0.120			
Vanadium	6010B	2.1	0.6	2	4/14/05	4/28/05	68.1			U
Zinc	6010B	2.1	0.3	2	4/14/05	4/28/05	73.8			

% Solids: 69.4

Comments:

420/0

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INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Sample Name: TO63-R2-SB01-1-2

Lab Code: K2502497-005

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.11		N	IJ
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	9.21			
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	58.8]
Beryllium	6010B	1.09	0.03	2	4/14/05	4/28/05	0.71	В]
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U		
Chromium	6010B	2.18	0.55	2	4/14/05	4/28/05	104]
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	10.6]
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	35.7]
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	12.4]
Mercury	7471A	0.01	0.01	1	4/11/05	4/13/05	0.06			14
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	บ		
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	38.0		*	J
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.6	В		
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.108			
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.158			
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	84.4			J
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	81.6			

% Solids: 65.0

Comments:

Chos

-11-

INORGANIC ANALYSIS DATA SHEET

Battelle Memorial Institute Client:

Service Request: K2502497

Project No.: G486063

Matrix:

Date Collected: 04/06/05

Project Name: Novato Ballfields SOIL

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB04-0-0.5 Lab Code: K2502497-006

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.11		N	1:
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	2.51			1
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	275			1
Beryllium	6010B	1.11	0.03	2	4/14/05	4/28/05	0.72	В		1
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	Ū		j
Chromium	6010B	2.22	0.56	2	4/14/05	4/28/05	14.0			ĺ
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	6.2			ĺ
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	4.5			ĺ
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	9.08			ĺ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.09			ĺ٨
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U		
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	15.9		*	J
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.1	ט		ĺ
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.091			ĺ
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.093			ĺ
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	19.4			1
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	38.0			

% Solids: 88.3

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502497

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: T063-R1-SB04-4-5 Lab Code: K2502497-007

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.10		N	IJ
Arsenic	200.8	0.46	0.05	5	4/14/05	4/22/05	4.55			1
Barium	6010B	0.9	0.2	2	4/14/05	4/28/05	40.6			1
Beryllium	6010B	0.94	0.03	2	4/14/05	4/28/05	0.66	В		1
Cadmium	6010B	0.9	0.1	2	4/14/05	4/28/05	0.1	U]
Chromium	6010B	1.87	0.47	2	4/14/05	4/28/05	112			Ì
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	14.9			Ì
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	31.2			Ì
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	7.10			ĺ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.06			IU
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	Ū		u =
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	55.0		*	IJ
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.2	В		ĺ
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.084			ĺ
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.162			Ì
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	87.9			J
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	93.0			

% Solids: 59.1

Comments:

6/20/08

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Matrix: SOIL

Basis: Dry

Sample Name: T063-R1-SB01-0-0.5 Lab Code: K2502497-008

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.23		N	ij
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	2.58			1
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	198			1
Beryllium	6010B	1.11	0.03	2	4/14/05	4/28/05	0.76	В		1
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	บ		1
Chromium	6010B	2.21	0.55	2	4/14/05	4/28/05	17.4			ĺ
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	7.9			ĺ
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	7.7			Ì
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	20.9			ہ آ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.11			M
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	Ü		j
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	24.2		*	İЈ
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	В		İ
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.193			İ
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.088]
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	23.1	1		IJ
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	38.1	Ī		ĺ

% Solids: 89.4

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Basis: Dry

Units: mg/kg

Sample Name: TO63-R1-SB03-0-0.5

Lab Code: K2502497-009

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.31		N	IJ
Arsenic	200.8	0.60	0.06	5	4/14/05	4/22/05	2.62			1
Barium	6010B	1.2	0.2	2	4/14/05	4/28/05	114			1
Beryllium	6010B	1.20	0.04	2	4/14/05	4/28/05	0.52	В		1
Cadmium	6010B	1.2	0.1	2	4/14/05	4/28/05	0.2	В		1
Chromium	6010B	2.40	0.60	2	4/14/05	4/28/05	28.7			1
Cobalt	6010B	2.4	0.4	2	4/14/05	4/28/05	6.8			1
Copper	6010B	2.4	2.4	2	4/14/05	4/28/05	11.3			1
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	30.1			ĺ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.28			1
Molybdenum	6010B	2.4	2.4	2	4/14/05	4/28/05	2.4	ט		
Nickel	200.8	0.24	0.05	5	4/14/05	4/22/05	21.4		*	J
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.2	В		
Silver	200.8	0.024	0.004	5	4/14/05	4/15/05	1.610			ĺ
Thallium	200.8	0.024	0.002	5	4/14/05	4/22/05	0.070			
Vanadium	6010B	2.4	0.7	2	4/14/05	4/28/05	22.7			J
Zinc	6010B	2.4	0.4	2	4/14/05	4/28/05	52.3			

% Solids: 81.6

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INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB03-4-5

Lab Code: K2502497-010

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.08		N	IJ
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	6.71			1
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	44.3			j.
Beryllium	6010B	1.10	0.03	2	4/14/05	4/28/05	0.49	В		j
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	บ		j
Chromium	6010B	2.20	0.55	2	4/14/05	4/28/05	84.8			Ī
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	9.7			ĺ
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	27.3			j
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	14.1			Ī
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.05			IU
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U		NUJ
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	42.1		*	J
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	В		j
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.119			ĺ
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.151			Ì
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	61.1			J
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	68.0			ĺ

% Solids: 64.1

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INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502497

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: T063-R4-SB04-0-0.5 Lab Code: K2502497-011

								7	1	4
Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N	j (
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.85			
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	190			_
Beryllium	6010B	1.13	0.03	2	4/14/05	4/28/05	0.93	В	<u> </u>]
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	Ū		J
Chromium	6010B	2.26	0.56	2	4/14/05	4/28/05	15.5			
Cobalt	6010B	2.3	0.3	2	4/14/05	4/28/05	16.5			
Copper	6010B	2.3	2.3	2	4/14/05	4/28/05	7.5]
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	14.1			
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.05			jν
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/28/05	2.3	ט] ,
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	28.7		*	j_
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	В		
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	2.950			
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.093]
Vanadium	6010B	2.3	0.7	2	4/14/05	4/28/05	25.0] [
Zinc	6010B	2.3	0.3	2	4/14/05	4/28/05	29.9			Ì

% Solids: 87.8

Comments:

6/20/05

INORGANIC ANALYSIS DATA SHEET

Battelle Memorial Institute Client:

Service Request: K2502497

Project No.: G486063

Matrix:

Date Collected: 04/06/05

Project Name: Novato Ballfields SOIL

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB04-4-5

Lab Code: K2502497-012

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.11		N	J
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	8.43]
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	59.0]
Beryllium	6010B	1.13	0.03	2	4/14/05	4/28/05	0.71	В]
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U]
Chromium	6010B	2.26	0.56	2	4/14/05	4/28/05	103]
Cobalt	6010B	2.3	0.3	2	4/14/05	4/28/05	21.8]
Copper	6010B	2.3	2.3	2	4/14/05	4/28/05	34.0]
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	29.1]
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.06			$]\nu$
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/28/05	2.3	ט		NI
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	50.7		*	\mathbb{T}
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	В		
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	3.080			
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.161			
Vanadium	6010B	2.3	0.7	2	4/14/05	4/28/05	82.5			J
Zinc	6010B	2.3	0.3	2	4/14/05	4/28/05	89.3]

% Solids: 62.4

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INORGANIC ANALYSIS DATA SHEET

Battelle Memorial Institute Client:

Service Request: K2502497

Project No.: G486063

Matrix:

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB04-0-0.5

Lab Code: K2502497-013

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N	jJ
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.79			
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	188]
Beryllium	6010B	1.10	0.03	2	4/14/05	4/28/05	1.07	В]
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U]
Chromium	6010B	2.21	0.55	2	4/14/05	4/28/05	17.3			
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	9.0]
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	4.8			
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	9.61]
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.04			W
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U]
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	24.4		*	L [
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.1	В]
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.131]
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.113			
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	27.2			J
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	30.5			

% Solids: 88.8

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INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix: SOIL

Sample Name: TO63-R5-SB04-5-6

Lab Code: K2502497-014

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.09		N	İJ
Arsenic	200.8	0.48	0.05	5	4/14/05	4/22/05	4.46			1
Barium	6010B	0.9	0.2	2	4/14/05	4/28/05	40.5			1
Beryllium	6010B	0.94	0.03	2	4/14/05	4/28/05	0.80	В		j
Cadmium	6010B	0.9	0.1	2	4/14/05	4/28/05	0.1	Ū		j
Chromium	6010B	1.88	0.47	2	4/14/05	4/28/05	88.3			ĺ
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	11.7			İ
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	31.9			İ
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	10.7			İ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.07			IU
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	U		NJ
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	54.0		*	İJ
Selenium	200.8	1.0	0.1	5	4/14/05	4/22/05	0.5	В		ĺ
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.088			
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.143	Ī		1
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	69.1			J
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	95.0			

% Solids: 58.5

Comments:

6/20/05

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB02-0-0.5

Lab Code: K2502497-015

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.22		N	J
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.92			
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	162			
Beryllium	6010B	1.11	0.03	2	4/14/05	4/28/05	0.91	В		
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.2	В		
Chromium	6010B	2.23	0.56	2	4/14/05	4/28/05	15.3			
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	10.1			
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	5.8			
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	10.6			
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.04			u
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	ט		
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	22.0		*	J
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	В		
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.026			
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.098			_
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	23.4			J
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	29.8			

% Solids: 88.0

1

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502497

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB02-3-4 Lab Code: K2502497-016

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.14		N	jJ
Arsenic	200.8	0.47	0.05	5	4/14/05	4/22/05	5.87]
Barium	6010B	1.0	0.2	2	4/14/05	4/28/05	45.4]
Beryllium	6010B	0.95	0.03	2	4/14/05	4/28/05	0.76	В]
Cadmium	6010B	1.0	0.1	2	4/14/05	4/28/05	0.1	ט]
Chromium	6010B	1.91	0.48	2	4/14/05	4/28/05	114]
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	14.7]
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	34.9]
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	7.15]
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.07			N
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	Ū		111
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	60.5		*	ĴJ
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.4	В		1
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.065			
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.174]
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	88.5			J
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	100			Ī

% Solids: 58.3

Comments:

6/20/01

1

INORGANIC ANALYSIS DATA SHEET

Battelle Memorial Institute Client:

Service Request: K2502497

Project No.: G486063

Matrix:

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Basis: Dry

Units: mg/kg

Sample Name: TO63-R5-SB01-0.0.5

Lab Code: K2502497-017

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.19		N]、
Arsenic	200.8	0.60	0.06	5	4/14/05	4/22/05	3.12]
Barium	6010B	1.2	0.2	2	4/14/05	4/28/05	138]
Beryllium	6010B	1.20	0.04	2	4/14/05	4/28/05	0.92	В]
Cadmium	6010B	1.2	0.1	2	4/14/05	4/28/05	0.3	В]
Chromium	6010B	2.40	0.60	2	4/14/05	4/28/05	38.7			
Cobalt	6010B	2.4	0.4	2	4/14/05	4/28/05	10.9]
Copper	6010B	2.4	2.4	2	4/14/05	4/28/05	15.0			7
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	17.6]
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.06			$] \nu$
Molybdenum	6010B	2.4	2.4	2	4/14/05	4/28/05	2.4	Ū]
Nickel	200.8	0.24	0.05	5	4/14/05	4/22/05	39.7		*	$\mathbb{L}[$
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.2	В]
Silver	200.8	0.024	0.004	5	4/14/05	4/15/05	0.116]
Thallium	200.8	0.024	0.002	5	4/14/05	4/22/05	0.113]
Vanadium	6010B	2.4	0.7	2	4/14/05	4/28/05	38.3			\mathbb{J}
Zinc	6010B	2.4	0.4	2	4/14/05	4/28/05	57.4]

% Solids: 80.8

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502497

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: T063-R5-SB03-0.0.5 Lab Code: K2502497-018

								T	·	"1
Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.09		N	j :
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	2.00]
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	142]
Beryllium	6010B	1.09	0.03	2	4/14/05	4/28/05	0.97	В]
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	Ū		
Chromium	6010B	2.18	0.54	2	4/14/05	4/28/05	14.4]
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	7.5			
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	5.8]
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	78.1			j
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.05]V
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	ט		
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	18.5		*	
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.4	В		
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.034]
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.112			
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	21.8			IJ
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	36.6			İ

% Solids: 91.9

Comments:

(170/0)

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB03-0.0.5

Lab Code: K2502497-019

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N	IJ
Arsenic	200.8	0.55	0.05	5	4/14/05	4/22/05	8.31			ĺ
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	108			ĺ
Beryllium	6010B	1.09	0.03	2	4/14/05	4/28/05	0.91	В		1
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	В		ĺ
Chromium	6010B	2.18	0.55	2	4/14/05	4/28/05	76.3			İ
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	8.1			
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	22.7			
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.4			ĺ
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.07			V
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U		
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	40.4		*	J
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	В		
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.117			
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.148			
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	64.1			T
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	65.5			7

% Solids: 65.1

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: T063-R2-SB02-0.0.5

Lab Code: K2502497-020

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.20		N	
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	12.3]
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	53.6]
Beryllium	6010B	1.13	0.03	2	4/14/05	4/28/05	0.55	В]
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	Ū]
Chromium	6010B	2.27	0.57	2	4/14/05	4/28/05	107		1]
Cobalt	6010B	2.3	0.3	2	4/14/05	4/28/05	10.9]
Copper	6010B	2.3	2.3	2	4/14/05	4/28/05	40.7]
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	11.5]
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.10] [/
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/28/05	2.6			Ju
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	39.4		*	IJ
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.6	В		
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	0.125			j
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.162]
Vanadium	6010B	2.3	0.7	2	4/14/05	4/28/05	83.7			\mathbb{J}
Zinc	6010B	2.3	0.3	2	4/14/05	4/28/05	78.8]

% Solids: 63.0

LDC #: 13575A4	VALIDATION COMPLETENESS WORKSHEET	Date:6 - 7 - 05
SDG #: K2502497	Level III	Page: <u>l</u> of <u>l</u>
Laboratory: Columbia Analytical	<u>Services</u>	Reviewer: MG
METHOD: Metals (EDA SW 846	Mothed 6010B/7000\ /2= 0 0	2nd Reviewer: μη

METHOD: Metals (EPA SW 846 Method 6010B/7000)/ 200. 多

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
1.	Technical holding times	A	Sampling dates: 4-6-05
11.	Calibration	Α	
111.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	SW	
V.	Matrix Spike Analysis	SW	MS
VI.	Duplicate Sample Analysis	SW	Dur
VII.	Laboratory Control Samples (LCS)	SWA	LCS
VIII.	Internal Standard (ICP-MS)	2	Not utilized
IX.	Furnace Atomic Absorption QC	7	Not utilized Not reviewed
X	ICP Serial Dilution	SW	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	Α	
XIII.	Field Duplicates	SW	D=3+4 D=8+7063-RI-5B01-0-0.5 DUP
XIV.	Field Blanks	7	D=3+4 D=8+T063-RI-SB01-0-0.5 DUP (SD6: K2502499)

Note:

A = Acceptable N = Not provided/applicable SW = See worksheet

ND = No compounds detected

R = Rinsate FB = Field blank

D = Duplicate TB = Trip blank EB = Equipment blank

Validated Samples:

all soil

		7					
1	TO63-R2-SB04-0-0.5	11	TO63-R4-SB04-0-0.5	21	TO63-R2-SB04-0-0.5MS	31	
2	TO63-R2-SB04-3-4	12	TO63-R4-SB04-4-5	22	TO63-R2-SB04-0-0.5DUP	32	
3	TO63-R2-SB01-0-0.5	13	TO63-R5-SB04-0-0.5	23	TO63-R4-SB04-0-0.5MS	33	
4	TO63-R2-SB01-0-0.5 Dup	14	TO63-R5-SB04-5-6	24	TO63-R4-SB04-0-0.5DUP	34	
5	TO63-R2-SB01-1-2	15	TO63-R5-SB02-0-0.5	25	PBS	35	
6	TO63-R1-SB04-0-0.5	16	TO63-R5-SB02-3-4	26		36	
7	TO63-R1-SB04-4-5	17	TO63-R5-SB01-0-0.5	27		37	
8	TO63-R1-SB01-0-0.5	18	TO63-R5-SB03-0-0.5	28		38	
9	TO63-R1-SB03-0-0.5	19	TO63-R2-SB03-0-0.5	29		39	
10	TO63-R1-SB03-4-5	20	TO63-R2-SB02-0-0.5	30		40	

Notes:	

LDC #: 13575A4 SDG #: K2502497

VALIDATION FINDINGS WORKSHEET Sample Specific Element Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: MM

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-920	5	Al Sb. As, Ba, Be, Cd Ca Cr, Co, Cu Fe, Pb Mg, Mn, Hg, Ni K, Se, Ag Na, Ti, V, Zn, Mo B, Si, CN
QC 21, 82		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN,
23 24	4	Al, Sb, As, Ba, Be, Cd) Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN,
,		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN,
		Al, Sb. As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al. Sb. As. Ba. Be, Cd. Ca. Cr. Co. Cu. Fe, Pb. Mg. Mn. Hg. Ni. K. Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN ⁻ ,
	/	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN ⁻ ,
	——————————————————————————————————————	Analysis Method
СР		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
CP Trace	<u>S</u> 4	N, Sb, As, Ba, Be, Cd) Ca, <u>Cr, Co, Cu</u>) Fe. Pb. Mg. Mn. Hg. Ni. K. Se. Ag. Na. Ti. <u>V. Zn. Mo</u> B. Si. CN'
CP-MS	P	NISD, AS Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, PDMg, Mn, Hg, Ni, K, Se, Ag, Na, (1), V, Zn, Mo, B, Si, CN',
BFAA		N, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,

Comments: Mercury by CVAA if performed

LDC #: (3 5 7 5 β 4 SDG #: K 2502497

NALIDATION FINDINGS WORKSHEET
SDG #: K 2502497

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: 100 x : 1CP M 5 x dil Sample Concentration units, unless otherwise noted: Mg / Kg Associates Samples:

Page: 1 of 2 2nd Revewer: MAY Revewer:

					b										
									Şı	Simple Identification	sation				
Analyte	Maximum PB* (mg/Kg)	Maximum PB* (ug/L)	Maximum ICB/CCB ^a (ug/L)	Blank Action Limit		Ce	3	Ь	5	૭		0)	gravina	Ö	
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were quelif	ied as not de	pterted "I"	s within live :	imes the ass	sociated ICB,	CCB or PB o	concentration	are listed ab	ove with the d	entifications fi	om the Valide	ition Complete	nass Worksha	to cook to	41.00.

were qualified as not detected, "U". Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: [3575A4 SDG #: K2502497 METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preps Sample Concentration units, unless otherwise noted: wq /kg

VALIDATION FINDINGS WORKSHEET PB/ICB/CCB QUALIFIED SAMPLES Soil preparation factor appled: IOO x : ICP Ms 5x dil G / Kg Associated Samples:

Page: 2 of 2 Reviewer: MC 2nd Reviewer:

9 30 07 0.10					•	•			San	Sample Identification	Han			
0-	Analyte	Maximum PB* (mg/Kg)	1 H	1 1	13	+	15	ارد		<u> </u>	61	20		
0-	Ā													Al
0-	Sb													qS
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	В́Н	0.03	0.16	0.10	0.04	0.07	0.04		•	0.05	0.07	0.10		Hg
	Z		0.1	0.35										Z
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Samples with analyte concentrations within five sines the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a. The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

SDG #: K3502497 LDC #: 13575A4

VALIDATION FINDINGS WORKSHEET ICP Interference Check Sample

Reviewer: MG Page: Lof 2nd Reviewer: 12mg

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y(N)N/A

Were ICP interference check samples performed as required?

Y(N)N/A

Were the AB solution percent recoveries (%R) within the control limits of 80-120%?

LEVEL IV ONLY:

Y N N/A

Were recalculated results acceptable? See Level IV Paralculation Wardan Control

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

L						
*	Date	ICS Identification	Analyte	- 1	Associated Samples	Qualifications
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SDG #: N 2502497 LDC #: 13575 AU

VALIDATION FINDINGS WORKSHEET Matrix Spike Analysis

Page: [of | Reviewer: MG 2nd Reviewer: 44

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A"

Y N N/A

Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A

Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery? Y N N/A Was LEVEL IV ONLY:

Y N N/A

<u> </u>	Y N N/A Were recalc	ulated results ac	sceptable? See	Level IV Recalculation W	Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.	
*	Matrix	Matrix	Analyte	%R	Associated Samples	- Parintend
	21	80', (95	(20-130)	10	
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SDG #: K3502497 LDC #: 13575A4

VALIDATION FINDINGS WORKSHEET **Duplicate Analysis**

して Page: 2nd Reviewer: Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

| N/A | N/A | Was a duplicate sample analyzed for each matrix in this SDG?

Were all duplicate sample relative percent differences (RPD) < 20% for water samples and < 35% for soil samples? If no, see qualifications below. A control limit of ±R.L. (±2X R.L for soil) was used for sample values that were <5X the R.L., including the case when only one of the duplicate sample values was <5X R.L. if field blanks were used for laboratory duplicates, note in the Overall Assessment. Y (N) N/A

LEVEL IV ONLY:

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations. Y N N/A ₹ ~

L							
*	Duplicate ID	Matrix	Analyte	RPD (Limits)	Difference (Limits)	Associated Samples	Qualifications
	he	Soi (180	(567) 6		1) 18	- V/£0/£
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SDG #: 43502497 LDC #: 13575A4

VALIDATION FINDINGS WORKSHEET ICP Serial Dilution

Reviewer:_____

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.
 Y N N/A
 If an Y N/A

 Y N N/A
 Werr Very

 Y N N/A
 Is the LEVEL IV ONLY:

 Y N N/A
 Werr Very

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*	Diluted Sample ID	Matrk	Analyte	%D	Associated Samples	Qualifications	
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LDC#: 13575A4 SDG#: K2502497

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page: of Page: MG Reviewer: MG 2nd Reviewer: 44

METHOD: Metals (EPA Method 6010B/7000)

N NA N NA Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

	Concentrat	tion (mg/kg)		
Compound	3	4	RPD	
Antimony	0.13	0.14	7	
Arsenic	3.70	3.04	20	
Barium	62.8	123	65	
Beryllium	0.82	1.04	24	
Chromium	114	78.3	37	
Cobalt	15.5	27.0	54	
Copper	42.3	27.2	43	
Lead	19.2	12.3	44	
Mercury	0.09	0.09	0	
Nickel	57.1	41.6	31	
Selenium	0.4	0.4	0	
Silver	0.380	0.681	57	
Thallium	0.166	0.120	32	
Vanadium	94.7	68.1	33	
Zinc	101	73.8	31	

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LDC#: 13575A4 SDG#: K2502497

VALIDATION FINDINGS WORKSHEET Field <u>Duplicates</u>

Page: l of l Reviewer: MG 2nd Reviewer: LIM

METHOD: Metals (EPA Method 6010B/7000)

YN NA YN NA Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

	Concentrat	tion (mg/kg)		
Compound	8	TO63-R1-SB01-0-0.5DUP	RPD	
Antimony	0.23	0.36	44	
Arsenic	2.58	4.03	44	
Barium	198	141	34	
Beryllium	0.76	0.73	4	
Cadmium	0.1U	0.6	200	
Chromium	17.4 ·	27.3	44	
Cobalt	7.9	9.1	14	
Copper	7.7	14.1	59	
Lead	20.9	44.2	72	
Mercury	0.11	0.356	106	
Nickel	24.2	27.6	13	
Selenium	0.2	0.2	0	
Silver	0.193	1.050	138	
Thallium	0.088	0.091	3	
Vanadium	23.1	29.6	25	
Zinc	38.1	/8.4	69	

V:\FIELD DUPLICATES\FD_inorganic\13575A4b.wpd

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Ballfields Parcels at DoDHF Novato, CA

Collection Date: April 4 through April 6, 2005

LDC Report Date: June 14, 2005

Matrix: Soil

Parameters: Metals

Validation Level: NFESC Level III

Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K2502499

Sample Identification

TO63-191-SB03-0-0.5 TO63-193-SB03-0-0.5DUP TO63-191-SB01-0-0.5 TO63-R1-SB02-0-0.5MS TO63-191-SB02-0-0.5 TO63-R1-SB02-0-0.5DUP TO63-193-SB01-0-0.5

TO63-193-SB03-0-0.5

TO63-193-SB03-0-0.5Dup

TO63-193-SB02-0-0.5

TO63-SPN-SB02-0-0.5

TO63-SPN-SB02-4-5 TO63-SPN-SB03-0-0.5

TO63-R1-SB02-0-0.5

TO63-R1-SB01-0-0.5Dup

TO63-PDD-SB01-0-0.5

TO63-PDD-SB02-0-0.5

TO63-PDD-SB03-0-0.5

TO63-PDD-SB04-0-0.5 TO63-PDD-SB05-0-0.5

TO63-191-SB03-0-0.5MS

TO63-191-SB03-0-0.5DUP

TO63-193-SB03-0-0.5MS

Introduction

This data review covers 23 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010, 7000 and EPA Method 200.8 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

The review follows the Final Sampling and Analysis Plan for Preliminary Assessment/Site Investigation of Ballfields Parcels at DoDHF Novato, California, (March 23, 2005) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Nickel	0.07 mg/Kg	All samples in SDG K2502499
ICB/CCB	Cadmium Nickel Silver Thallium	o.e ug/L 0.14 ug/L 0.009 ug/L 0.005 ug/L	All samples in SDG K2502499
ICB/CCB	Mercury	0.138 ug/L	TO63-191-SB03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB01-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB03-0-0.5 TO63-SPN-SB03-0-0.5 TO63-PDD-SB01-0-0.5 TO63-PDD-SB01-0-0.5 TO63-PDD-SB03-0-0.5
ICB/CCB	Mercury	0.164 ug/L	TO63-PDD-SB04-0-0.5 TO63-PDD-SB05-0-0.5

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-191-SB03-0-0.5	Cadmium	0.6 mg/Kg	0.6U mg/Kg
TO63-191-SB02-0-0.5	Cadmium	0.4 mg/Kg	0.4U mg/Kg
TO63-193-SB01-0-0.5	Cadmium	0.2 mg/Kg	0.2U mg/Kg
TO63-193-SB03-0-0.5Dup	Cadmium	0.6 mg/Kg	0.6U mg/Kg
TO63-193-SB02-0-0.5	Cadmium Mercury	0.2 mg/Kg 0.061 mg/Kg	0.2U mg/Kg 0.061U mg/Kg
TO63-SPN-SB02-0-0.5	Cadmium	0.2 mg/Kg	0.2U mg/Kg
TO63-SPN-SB02-4-5	Cadmium Mercury	0.2 mg/Kg 0.044 mg/Kg	0.2U mg/Kg 0.044U mg/Kg
TO63-SPN-SB03-0-0.5	Cadmium	0.3 mg/Kg	0.3U mg/Kg
TO63-R1-SB02-0-0.5	Cadmium	0.5 mg/Kg	0.5U mg/Kg
TO63-R1-SB01-0-0.5Dup	Cadmium	0.6 mg/Kg	0.6U mg/Kg
TO63-PDD-SB01-0-0.5	Cadmium	0.3 mg/Kg	0.3U mg/Kg
TO63-PDD-SB02-0-0.5	Cadmium	0.2 mg/Kg	0.2U mg/Kg
TO63-PDD-SB03-0-0.5	Cadmium	0.3 mg/Kg	0.3U mg/Kg
TO63-PDD-SB04-0-0.5	Cadmium	0.4 mg/Kg	0.4U mg/Kg
TO63-PDD-SB05-0-0.5	Cadmium Mercury	0.2 mg/Kg 0.057 mg/Kg	0.2U mg/Kg 0.057U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
T063-191-SB02-0-0.5 T063-193-SB01-0-0.5 T063-SPN-SB02-0-0.5 T063-PDD-SB02-0-0.5 T063-PDD-SB03-0-0.5 T063-PDD-SB04-0-0.5	Molybdenum	This metal was not spiked in ICSAB.	This metal is potentially affected by common interferents and should be spiked in ICSAB.	J (all detects) UJ (all non-detects)	L.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
TO63-191-SB03-0-0.5MS (All samples in SDG K2502499)	Antimony	34 (70-130)	J (all detects) UJ (all non-detects)	А
TO63-R1-SB02-0-0.5MS (All samples in SDG K2502499)	Antimony	50 (70-130)	J (all detects) UJ (all non-detects)	А

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
TO63-191-SB03-0-0.5DUP (All camples in SDG K2502499)	Lead	41 (≤30)	-	J (all detects) U.J (all non-detects)	А
TO63-R1-SB02-0-0.5DUP (All samples in SDG K2502499)	Silver	35 (⊴30)	-	J (all detects) UJ (all non-detects)	А

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not reviewed for this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
TO63-193-SB03-0-0.5L	Vanadium	16 (≤10)	All samples in SDG K2502499	J (all detects)	А

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

Samples T063-193-SB03-0-0.5 and T063-193-SB03-0-0.5Dup and samples T063-R1-SB01-0-0.5Dup and T063-R1-SB01-0-0.5 (from SDG K2502497) were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra	tion (mg/Kg)	
Analyte	TO63-193-SB03-0-0.5	TO63-193-SB03-0-0.5Dup	RPD
Antimony	0.31	0.29	7
Arsenic	5.24	5.38	3
Barium	213	133	46
Beryllium	0.58	0.53	9
Cadmium	0.7	0.6	15
Chromium	54.3	61.7	13

	Concentra	tion (mg/Kg)	
Analyte	TO63-193-SB03-0-0.5	TO63-193-SB03-0-0.5Dup	RPD
Cobalt	12.9	12.0	7
Copper	30.5	29.2	4
Lead	34.0	40.9	18
Mercury	0.482	0.376	25
Nickel	47.2	47.2	O
Selenium	0.3	0.4	29
Silver	4.810	3.600	29
Thallium	0.113	0.107	5
Vanadium	43.7	50.7	15
Zinc	103	91.4	12

XIV. Field Blanks

No field blanks were identified in this SDG.

Ballfields Parcels at DoDHF Novato, CA Metals - Data Qualification Summary - SDG K2502499

SDG	Sample	Analyte	Flag	A or P	Reason
K2502499	TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-SPN-SB02-0-0.5 TO63-PDD-SB02-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB04-0-0.5	Molybdenum	J (all detects) UJ (all non-detects)	Р	ICP interference check
K2502499	TO63-191-SB03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB03-0-0.5 TO63-R1-SB01-0-0.5 TO63-R1-SB01-0-0.5 TO63-PDD-SB01-0-0.5 TO63-PDD-SB01-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5	Antimony	J (all detects) UJ (all non-detects)	A	Matrix spike analysis (%R)
K2502499	TO63-191-SB03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5	Lead	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	Α	Duplicate analysis (RPD)

SDG	Sample	Analyte	Flag	AorP	Reason
K2502499	TO63-191-3B03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5 TO63-9N-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB03-0-0.5 TO63-R1-SB02-0-0.5 TO63-R1-SB01-0-0.5 TO63-PDD-SB01-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB03-0-0.5	Vanadium	J (all detects)	Α	ICP serial dilution (%D)

Ballfields Parcels at DoDHF Novato, CA Metals - Laboratory Blank Data Qualification Summary - SDG K2502499

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502499	TO63-191-3B03-0-0.5	Cadmium	0.6U mg/Kg	۸
K2502499	TO63-191-SB02-0-0.5	Cadmium	0.4U mg/Kg	А
K2502499	TO63-193-SB01-0-0.5	Cadmium	0.2U mg/Kg	А
K2502499	TO63-193-SB03-0-0.5Dup	Cadmium	0.6U mg/Kg	А
K2502499	TO63-193-SB02-0-0.5	Cadmium Mercury	0.2U mg/Kg 0.061U mg/Kg	А
K2502499	TO63-SPN-SB02-0-0.5	Cadmium	0.2U mg/Kg	А
K2502499	TO63-SPN-SB02-4-5	Cadmium Mercury	0.2U mg/Kg 0.044U mg/Kg	Α
K2502499	TO63-SPN-SB03-0-0.5	Cadmium	0.3U mg/Kg	А
K2502499	TO63-R1-SB02-0-0.5	Cadmium	0.5U mg/Kg	Α
K2502499	TO63-R1-SB01-0-0.5Dup	Cadmium	0.6U mg/Kg	А
K2502499	TO63-PDD-SB01-0-0.5	Cadmium	0.3U mg/Kg	А

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502499	TO63-PDD-SB02-0-0.5	Cadmium	0.2U mg/Kg	۸
K2502499	TO63-PDD-SB03-0-0.5	Cadmium	0.3U mg/Kg	А
K2502499	TO63-PDD-SB04-0-0.5	Cadmium	0.4U mg/Kg	А
K2502499	TO63-PDD-SB05-0-0.5	Cadmium Mercury	0.2U mg/Kg 0.057U mg/Kg	А

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INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: T063-191-SB03-0-0.5

Lab Code: K2502499-001

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.56		N	J
Arsenic	200.8	0.59	0.06	5	4/14/05	04/22/05	4.97		<u> </u>	_
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	94.0			_
Beryllium	6010B	1.18	0.04	2	4/14/05	04/18/05	0.50		<u> </u>	١,,
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.6	В	<u> </u>]И
Chromium	6010B	2.37	0.59	2	4/14/05	04/18/05	36.1			_
Cobalt	6010B	2.4	0.4	2	4/14/05	04/18/05	10.2	<u> </u>		_[
Copper	6010B	2.4	2.4	2	4/14/05	04/18/05	17.1	<u> </u>		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	16.0		*	JJ
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.138			_
Molybdenum	6010B	2.4	2.4	2	4/14/05	04/18/05	2.4	Ü		_[
Nickel	200.8	0.24	0.05	5	4/14/05	04/22/05	31.6			_
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.2	В		_
Silver	200.8	0.024	0.004	5	4/14/05	04/15/05	0.067		*	ΓĹ
Thallium	200.8	0.024	0.002	5	4/14/05	04/22/05	0.100			╛
Vanadium	6010B	2.4	0.7	2	4/14/05	04/18/05	34.7]J
Zinc	6010B	2.4	0.4	2	4/14/05	04/18/05	50.0			_

% Solids: 84.5

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INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-191-SB01-0-0.5

Lab Code: K2502499-002

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.22		N	$]{\cal J}$
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	4.04			
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	128			Į
Beryllium	6010B	1.14	0.03	2	4/14/05	04/18/05	0.59	В]
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.7	В		J
Chromium	6010B	2.29	0.57	2	4/14/05	04/18/05	33.5	<u> </u>	<u> </u>]
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	8.9			
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	15.4			
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	18.8		*	J
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.174]
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U		
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	40.5]
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.3	В]
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.045		*	IJ
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.098			
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	33.1	<u> </u>		IJ
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	53.9]

% Solids: 85.8

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INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix: SOIL

Sample Name: TO63-191-SB02-0-0.5

Lab Code: K2502499-003

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Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.19	<u> </u>	N	֓֞֞֞֓֓֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֓֡֓֡֓֡֡֡֓֓֓֡֡֡֓֡֡֡֡֡֡
Arsenic	200.8	0.56	0.06	5	4/14/05	04/22/05	6.61			Ţ
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	114		<u> </u>	_
Beryllium	6010B	1.11	0.03	2	4/14/05	04/18/05	0.62		<u> </u>	┨.
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.4	В		<u> </u>
Chromium	6010B	2.22	0.56	2	4/14/05	04/18/05	82.5			_
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	11.6		<u> </u>	_
	6010B	2.2	2.2	2	4/14/05	04/18/05	34.4			_[
Copper	200.8	0.06	0.02	5	4/14/05	04/22/05	36.4		*	֓֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֝֡֓֡֞֞֞֡֡֡֡֡֡֡֡
	7471A	0.017	0.008	1	4/11/05	04/13/05	0.117	<u> </u>		_
Mercury	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U		
Molybdenum	200.8	0.22	0.04	5	4/14/05	04/22/05	48.7			
Nickel	200.8	1.1	0.1	5	4/14/05	04/22/05	0.4	В]
Selenium	200.8	0.022	0.003	5	4/14/05	04/15/05	0.101		*]:
Silver	200.8	0.022	0.002	5	4/14/05	04/22/05	0.147			
Thallium	6010B	2.2	0.7	2	4/14/05	04/18/05	67.2			
Vanadium	6010B	2.2	0.3	2	4/14/05	04/18/05	102	T]
Zinc	0010B	1 2.2	1 0.5	<u> </u>	1 -7 - 7	<u>L</u>				_

% Solids: 74.3

Comments:

Chilos

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INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Lab Code: K2502499-004 Sample Name: TO63-193-SB01-0-0.5

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.16	<u> </u>	N	JJ
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	8.08			_
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	49.7			_
Beryllium	6010B	1.17	0.04	2	4/14/05	04/18/05	0.65	В	<u> </u>	
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.2	В		Jν
Chromium	6010B	2.33	0.58	2	4/14/05	04/18/05	89.3	<u> </u>		_[
Cobalt	6010B	2.3	0.4	2	4/14/05	04/18/05	13.0			_
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	27.2] _
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	16.0		*	M
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.088			_
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	บ		_
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	62.5]
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.6	В]
Silver	200.8	0.023	0.004	5	4/14/05	04/15/05	0.097		*	\coprod
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.166			<u> </u>
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	70.9]]
Zinc	6010B	2.3	0.4	2	4/14/05	04/18/05	86.2			

% Solids: 70.9

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INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Lab Code: K2502499-005 Sample Name: TO63-193-SB03-0-0.5

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.31		N] 〔
Arsenic	200.8	0.54	0.05	5	4/14/05	04/22/05	5.24			Ţ
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	213	<u> </u>		_
Beryllium	6010B	1.07	0.03	2	4/14/05	04/18/05	0.58	В		Ţ
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.7	В	<u> </u>	Ţ
Chromium	6010B	2.15	0.54	2	4/14/05	04/18/05	54.3	<u> </u>]
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	12.9]
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	30.5]
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	34.0		*]J
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.482		<u> </u>]
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	ט		_
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	47.2]
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.3	В]
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	4.810		*	$] \mathcal{J}$
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.113			
Vanadium	6010B	2.2	0.6	2	4/14/05	04/18/05	43.7			IJ
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	103]

% Solids: 76.4

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INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Units: mg/kg

Basis: Dry

Lab Code: K2502499-006 Sample Name: TO63-193-SB03-0-0.5 DUF

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Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
200.8	0.05	0.02	5	4/14/05	04/15/05	0.29		N	IJ
200.8	0.48	0.05	5	4/14/05	04/22/05			<u> </u>	
6010B	1.0	0.2	2	4/14/05	04/18/05			<u> </u>	ļ
6010B	0.97	0.03	2	4/14/05	04/18/05		·	<u> </u>	١,
6010B	1.0	0.1	2	4/14/05	04/18/05		В	<u> </u>	ļυ
6010B	1.93	0.48	2	4/14/05	04/18/05	61.7			_
6010B	1.9	0.3	2	4/14/05	04/18/05	12.0	<u> </u>		1
6010B	1.9	1.9	2	4/14/05				<u> </u>	ـ إ
200.8	0.05	0.02	5	4/14/05	04/22/05	<u> </u>		*	J
7471A	0.017	0.008	1	4/11/05	04/13/05				1
6010B	1.9	1.9	2	4/14/05	04/18/05	1	ן ט		_
200.8	0.19	0.04	5	4/14/05	04/22/05	1		<u> </u>	_
200.8	1.0	0.1	5	4/14/05	04/22/05		<u> </u>		ַ וַ
200.8	0.019	0.003	5	4/14/05	04/15/05	1		*](]
200.8	0.019	0.002	5	4/14/05	04/22/05	1	<u> </u>	<u> </u>	ـ إ
6010B	1.9	0.6	2	4/14/05	04/18/05	50.7	<u> </u>	<u> </u>]J
6010B	1.9	0.3	2	4/14/05	04/18/05	91.4	<u> </u>	<u> </u>	╛
	Method 200.8 200.8 200.8 6010B 6010B 6010B 6010B 200.8 7471A 6010B 200.8 200.8 200.8 200.8 6010B	Method MRL 200.8 0.05 200.8 0.48 6010B 1.0 6010B 0.97 6010B 1.9 6010B 1.9 6010B 1.9 200.8 0.05 7471A 0.017 6010B 1.9 200.8 0.19 200.8 1.0 200.8 0.019 200.8 0.019 6010B 1.9	Method MRL MDL 200.8 0.05 0.02 200.8 0.48 0.05 6010B 1.0 0.2 6010B 0.97 0.03 6010B 1.0 0.1 6010B 1.93 0.48 6010B 1.9 0.3 6010B 1.9 1.9 200.8 0.05 0.02 7471A 0.017 0.008 6010B 1.9 1.9 200.8 0.19 0.04 200.8 1.0 0.1 200.8 0.019 0.003 200.8 0.019 0.002 6010B 1.9 0.6	Method MRL MDL BIT. 200.8 0.05 0.02 5 200.8 0.48 0.05 5 6010B 1.0 0.2 2 6010B 1.0 0.1 2 6010B 1.9 0.3 2 6010B 1.9 0.3 2 6010B 1.9 0.3 2 6010B 1.9 1.9 2 200.8 0.05 0.02 5 7471A 0.017 0.008 1 6010B 1.9 1.9 2 200.8 0.19 0.04 5 200.8 0.019 0.003 5 200.8 0.019 0.003 5 200.8 0.019 0.002 5 6010B 1.9 0.6 2	Method MRL MDL Dil. Extracted 200.8 0.05 0.02 5 4/14/05 200.8 0.48 0.05 5 4/14/05 6010B 1.0 0.2 2 4/14/05 6010B 0.97 0.03 2 4/14/05 6010B 1.0 0.1 2 4/14/05 6010B 1.93 0.48 2 4/14/05 6010B 1.9 0.3 2 4/14/05 6010B 1.9 1.9 2 4/14/05 200.8 0.05 0.02 5 4/14/05 7471A 0.017 0.008 1 4/11/05 6010B 1.9 1.9 2 4/14/05 200.8 0.19 0.04 5 4/14/05 200.8 0.019 0.003 5 4/14/05 200.8 0.019 0.003 5 4/14/05 200.8 0.019 0.002 5 <td>Analysis Method MRL MDL Dil. Extracted Analyzed 200.8 0.05 0.02 5 4/14/05 04/15/05 200.8 0.48 0.05 5 4/14/05 04/22/05 6010B 1.0 0.2 2 4/14/05 04/18/05 6010B 0.97 0.03 2 4/14/05 04/18/05 6010B 1.0 0.1 2 4/14/05 04/18/05 6010B 1.93 0.48 2 4/14/05 04/18/05 6010B 1.9 0.3 2 4/14/05 04/18/05 6010B 1.9 1.9 2 4/14/05 04/18/05 200.8 0.05 0.02 5 4/14/05 04/13/05 7471A 0.017 0.008 1 4/11/05 04/18/05 200.8 0.19 0.04 5 4/14/05 04/12/05 200.8 0.019 0.003 5 4/14/05 04/15/05</td> <td>Method MRL MDL Dil. Extracted Analyzed Result 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29 200.8 0.48 0.05 5 4/14/05 04/22/05 5.38 6010B 1.0 0.2 2 4/14/05 04/18/05 133 6010B 0.97 0.03 2 4/14/05 04/18/05 0.53 6010B 1.0 0.1 2 4/14/05 04/18/05 0.6 6010B 1.93 0.48 2 4/14/05 04/18/05 61.7 6010B 1.9 0.3 2 4/14/05 04/18/05 12.0 6010B 1.9 1.9 2 4/14/05 04/18/05 29.2 200.8 0.05 0.02 5 4/14/05 04/18/05 0.376 6010B 1.9 1.9 2 4/14/05 04/18/05 1.9 200.8 0.19 0.04 5<td>Method MRL MDL Dil. Extracted Analyzed Result C 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29 </td><td>Analysis Method MRL MDL Dil. Extracted Analyzed Result C Q 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29 N 200.8 0.48 0.05 5 4/14/05 04/22/05 5.38 </td></td>	Analysis Method MRL MDL Dil. Extracted Analyzed 200.8 0.05 0.02 5 4/14/05 04/15/05 200.8 0.48 0.05 5 4/14/05 04/22/05 6010B 1.0 0.2 2 4/14/05 04/18/05 6010B 0.97 0.03 2 4/14/05 04/18/05 6010B 1.0 0.1 2 4/14/05 04/18/05 6010B 1.93 0.48 2 4/14/05 04/18/05 6010B 1.9 0.3 2 4/14/05 04/18/05 6010B 1.9 1.9 2 4/14/05 04/18/05 200.8 0.05 0.02 5 4/14/05 04/13/05 7471A 0.017 0.008 1 4/11/05 04/18/05 200.8 0.19 0.04 5 4/14/05 04/12/05 200.8 0.019 0.003 5 4/14/05 04/15/05	Method MRL MDL Dil. Extracted Analyzed Result 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29 200.8 0.48 0.05 5 4/14/05 04/22/05 5.38 6010B 1.0 0.2 2 4/14/05 04/18/05 133 6010B 0.97 0.03 2 4/14/05 04/18/05 0.53 6010B 1.0 0.1 2 4/14/05 04/18/05 0.6 6010B 1.93 0.48 2 4/14/05 04/18/05 61.7 6010B 1.9 0.3 2 4/14/05 04/18/05 12.0 6010B 1.9 1.9 2 4/14/05 04/18/05 29.2 200.8 0.05 0.02 5 4/14/05 04/18/05 0.376 6010B 1.9 1.9 2 4/14/05 04/18/05 1.9 200.8 0.19 0.04 5 <td>Method MRL MDL Dil. Extracted Analyzed Result C 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29 </td> <td>Analysis Method MRL MDL Dil. Extracted Analyzed Result C Q 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29 N 200.8 0.48 0.05 5 4/14/05 04/22/05 5.38 </td>	Method MRL MDL Dil. Extracted Analyzed Result C 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29	Analysis Method MRL MDL Dil. Extracted Analyzed Result C Q 200.8 0.05 0.02 5 4/14/05 04/15/05 0.29 N 200.8 0.48 0.05 5 4/14/05 04/22/05 5.38

% Solids: 74.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-193-SB02-0-0.5

Lab Code: K2502499-007

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.28		N]<
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	2.81			_
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	166	<u> </u>		_
Beryllium	6010B	1.13	0.03	2	4/14/05	04/18/05	0.50			┨.
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	В	<u> </u>	$\rfloor \nu$
Chromium	6010B	2.25	0.56	2	4/14/05	04/18/05	26.0			
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	9.0			
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	18.8			<u> </u>
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	13.3		*	IJ
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.061			$\rfloor \iota$
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U		
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	24.9]
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.2	В		
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.092		*	Ŋ
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.087] _
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	31.5			
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	110			_

% Solids: 87.0

Comments:

f6/17/05

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Lab Code: K2502499-008 Sample Name: TO63-SPN-SB02-0-0.5

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.14		N	jJ
Arsenic	200.8	0.55	0.05	5	4/14/05	04/22/05	7.81			Į
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	54.2			ļ
Beryllium	6010B	1.10	0.03	2	4/14/05	04/18/05	0.59	В		<u>l</u>
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	В] ${\cal V}$
Chromium	6010B	2.20	0.55	2	4/14/05	04/18/05	98.0			<u> </u>
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	13.2]
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	28.6]
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	11.5		*	$\mathbb{I}\mathcal{J}$
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.072			ļ
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U	<u> </u>	<u> </u>
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	49.7]
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.4	В]
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	0.060		*	$\mathbb{L}[$
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.134			_ [
Vanadium	6010B	2.2	0.7	2	4/14/05	04/18/05	83.4			IJ
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	89.0]

% Solids: 65.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB02-4-5

Lab Code: K2502499-009

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.08		N	֓֞֞֞֓֞֞֞֓֓֓֓֓֞֞֞֓֓֓֓֓֓֓֡֞֞֞֓֓֡֓֡֡֡֡֡֡֓֓֡֡֡֡֡֡
Arsenic	200.8	0.58	0.06	5	4/14/05	04/22/05	6.63			
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	31.1		<u> </u>	Ţ
Beryllium	6010B	1.15	0.03	2	4/14/05	04/18/05	0.30	В		┨.
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.2	В	<u> </u>]
Chromium	6010B	2.30	0.58	2	4/14/05	04/18/05	45.7			
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	6.7			
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	14.6			<u>]</u> .
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	7.67		*	֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓
Mercury	7471A	0.018	0.009	1	4/11/05	04/13/05	0.044			Įι
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	<u> </u>	_
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	23.6]
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.2	В]
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.050		*][
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.082			_
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	41.5] :
	6010B	2.3	0.3	2	4/14/05	04/18/05	43.3			
Zinc	1		<u> </u>	<u> </u>	<u> </u>		<u> </u>			-

% Solids: 71.3

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB03-0-0.5

Lab Code: K2502499-010

	Analysis			Dil.	Date	Date		_		
Analyte	Method	MRL	MDL		Extracted	Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.21		N	J
Arsenic	200.8	0.56	0.06	5	4/14/05	04/22/05	5.65			_
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	68.0	<u> </u>		1
Beryllium	6010B	1.13	0.03	2	4/14/05	04/18/05	0.58	`		ļ.,
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.3	В] [
Chromium	6010B	2.27	0.57	2	4/14/05	04/18/05	73.0			_
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	12.9			Ţ
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	26.6			<u> </u>
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	33.6		*	J
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.094	<u> </u>		ļ
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U		Į
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	42.3	<u> </u>		_
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.4	В		ļ
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.135		*	L
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.133	<u> </u>	<u> </u>	
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	57.6	<u> </u>	<u> </u>	Jナ
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	75.8]

% Solids: 73.5

Comments:

6/17/05

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Date Received: 04/07/05

Project Name: Novato Ballfields

Units: mg/kg

Matrix:

SOIL

Basis: Dry

Sample Name: TO63-R1-SB02-0-0.5

Lab Code: K2502499-011

								1		
Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.35		N	IJ
Arsenic	200.8	0.58	0.06	5	4/14/05	04/22/05	3.77	<u> </u>	<u> </u>	ļ
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	105			
Beryllium	6010B	1.17	0.04	2	4/14/05	04/18/05	0.48	В		ļ.,
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.5	В] $ u$
	6010B	2.33	0.58	2	4/14/05	04/18/05	21.7			
Chromium	6010B	2.3	0.4	2	4/14/05	04/18/05	6.5			
Cobalt	6010B	2.3	2.3	2	4/14/05	04/18/05	11.9			
Copper	200.8		0.02	5	4/14/05	04/22/05	42.5	Ī	*	įJ
Lead		0.06	<u> </u>	 	4/11/05	04/13/05	0.177	T		1
Mercury	7471A	0.019	0.010	1	1	1	2.3	.	i i	ጎ
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	<u> </u>	:	l T	╣
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	22.9	-	<u> </u>	-
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.2	. 	<u> </u>	<u> </u>
Silver	200.8	0.023	0.004	5	4/14/05	04/15/05	1.100		*	17
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.078			<u> </u>
	6010B	2.3	0.7	2	4/14/05	04/18/05	20.5			IJ
Vanadium	6010B	2.3	0.4	1 2	4/14/05	04/18/05	57.1	T		
Zinc	00101	1 4.3	1 2.3			<u> </u>				-

% Solids: 85.8

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Project Name. Notate Emman

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Sample Name: TO63-R1-SB01-0-0.5 DUF Lab Code: K2502499-012

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.36		N	$\mathbb{D}[$
Arsenic	200.8	0.52	0.05	5	4/14/05	04/22/05	4.03			
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	141			_[
Beryllium	6010B	1.05	0.03	2	4/14/05	04/18/05	0.73	В		J.,
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.6	В	<u> </u>] <i>u</i>
Chromium	6010B	2.11	0.53	2	4/14/05	04/18/05	27.3		1	_
Cobalt	6010B	2.1	0.3	2	4/14/05	04/18/05	9.1]
Copper	6010B	2.1	2.1	2	4/14/05	04/18/05	14.1			_
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	44.2		*	J
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.356			_
Molybdenum	6010B	2.1	2.1	2	4/14/05	04/18/05	2.1	U		_
Nickel	200.8	0.21	0.04	5	4/14/05	04/22/05	27.6]	_
Selenium	200.8	1.0	0.1	5	4/14/05	04/22/05	0.2	В		_[
Silver	200.8	0.021	0.003	5	4/14/05	04/15/05	1.050		*	JJ
Thallium	200.8	0.021	0.002	5	4/14/05	04/22/05	0.091			
Vanadium	6010B	2.1	0.6	2	4/14/05	04/18/05	29.6			IJ
Zinc	6010B	2.1	0.3	2	4/14/05	04/18/05	78.4			

% Solids: 79.1

Comments:

8411/05

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Date Received: 04/07/05

Project Name: Novato Ballfields

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Sample Name: TO63-PDD-SB01-0-0.5

Lab Code: K2502499-013

									1	1
Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.25		N] <
Arsenic	200.8	0.54	0.05	5	4/14/05	04/22/05	5.19]
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	67.9]
Beryllium	6010B	1.10	0.03	2	4/14/05	04/18/05	0.56	В]
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.3	В		$] \iota$
Chromium	6010B	2.19	0.55	2	4/14/05	04/18/05	49.9			
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	10.6]
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	20.6]
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	24.9		*] [
Mercury	7471A	0.016	0.008	1	4/11/05	04/13/05	0.124]
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	ט]
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	40.3]
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.3	В]
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	0.094		*	IJ
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.119]
Vanadium	6010B	2.2	0.7	2	4/14/05	04/18/05	44.1			IJ
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	65.9]

% Solids: 76.0

Comments:

16/17/05

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502499

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB02-0-0.5 Lab Code: K2502499-014

										7
Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.20		N	<u></u>
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	5.95	<u> </u>		_
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	65.0	<u> </u>		_
Beryllium	6010B	1.13	0.03	2	4/14/05	04/18/05	0.70	-		$\frac{1}{l}$
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	В	<u> </u>	١,
Chromium	6010B	2.26	0.57	2	4/14/05	04/18/05	95.2			_
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	13.5			_[
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	28.6			_[
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	15.6	<u> </u>	*	<u> </u>
Mercury	7471A	0.016	0.008	1	4/11/05	04/13/05	0.095	<u> </u>	<u> </u>	_
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3			_[
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	50.3	<u> </u>		_[
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.5	В		
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.118		*	_[.
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.134			
	6010B	2.3	0.7	2	4/14/05	04/18/05	73.7			<u></u>],
Vanadium	6010B	2.3	0.3	2	4/14/05	04/18/05	93.7			
Zinc	1	<u> </u>		<u> </u>		·	·			

% Solids: 62.3

Comments:

/6/17/01

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502499

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB03-0-0.5 Lab Code: K2502499-015

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.23		N	֡֞֞֞֞֞֞֞֞֞֞֞֞֞֞֡֡֡֞֞֞֞֡֡֡֡֡֡֡֡֡֡֡֡֡
Arsenic	200.8	0.59	0.06	5	4/14/05	04/22/05	5.83			Ţ
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	84.7	<u> </u>	<u> </u>	ļ
Beryllium	6010B	1.17	0.04	2	4/14/05	04/18/05	0.56		<u> </u>	┨.
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.3	В] l
Chromium	6010B	2.33	0.58	2	4/14/05	04/18/05	81.5]
Cobalt	6010B	2.3	0.4	2	4/14/05	04/18/05	11.8]
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	33.1			_
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	28.4		*]、
	7471A	0.017	0.009	1	4/11/05	04/13/05	0.081]
Mercury	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U		1
Molybdenum	200.8	0.24	0.05	5	4/14/05	04/22/05	37.1			1
Nickel	200.8	1.2	0.00	5	4/14/05	04/22/05	0.4	В	T	1
Selenium	1 200.8		0.004	5	4/14/05	04/15/05	0.111		*	Ĺ
Silver	1	0.023	<u> </u>	5	4/14/05	04/22/05	0.100	П	T	ĺ
Thallium	200.8	0.024	0.002	<u> </u>		<u> </u>	67.3	-	i —	1
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	88.8	.	 	╣
Zinc	6010B	2.3	0.4	2	4/14/05	04/18/05	88.8	1	<u> </u>	L

% Solids: 70.3

Comments:

6/12/05

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB04-0-0.5

Lab Code: K2502499-016

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.23		N] [
Arsenic	200.8	0.51	0.05	5	4/14/05	04/22/05	7.42			Ţ
Barium	6010B	1.0	0.2	2	4/14/05	04/18/05	74.3			_
Beryllium	6010B	1.02	0.03	2	4/14/05	04/18/05	0.90	В	<u> </u>	1
Cadmium	6010B	1.0	0.1	2	4/14/05	04/18/05	0.4	В		$\rfloor \iota$
Chromium	6010B	2.04	0.51	2	4/14/05	04/18/05	90.9]
Cobalt	6010B	2.0	0.3	2	4/14/05	04/18/05	16.3]
Copper	6010B	2.0	2.0	2	4/14/05	04/18/05	35.9]
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	43.1		*] _
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.108			_
Molybdenum	6010B	2.0	2.0	2	4/14/05	04/18/05	2.0	ט		_
Nickel	200.8	0.20	0.04	5	4/14/05	04/22/05	65.0]
Selenium	200.8	1.0	0.1	5	4/14/05	04/22/05	0.5	В]
Silver	200.8	0.020	0.003	5	4/14/05	04/15/05	0.140		*	IJ
Thallium	200.8	0.020	0.002	5	4/14/05	04/22/05	0.180]
Vanadium	6010B	2.0	0.6	2	4/14/05	04/18/05	73.3			$] \mathcal{I}$
Zinc	6010B	2.0	0.3	2	4/14/05	04/18/05	108]

% Solids: 69.5

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB05-0-0.5

Lab Code: K2502499-017

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.26		N	ŗ
Arsenic	200.8	0.55	0.05	5	4/14/05	04/22/05	6.94			
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	54.5	<u> </u>		_
Beryllium	6010B	1.11	0.03	2	4/14/05	04/18/05	0.79	В		_
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	В		
Chromium	6010B	2.22	0.56	2	4/14/05	04/18/05	98.8			_
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	19.5			
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	32.3]
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	19.7		*	$ \mathbf{k} $
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.057] [
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U		
	200.8	0.22	0.04	5	4/14/05	04/22/05	67.0			1
Nickel	200.8	1.1	0.1	5	4/14/05	04/22/05	0.5	В		1
Selenium	200.8	0.022	0.003	5	4/14/05	04/15/05	0.116	Π	*	Ľ
Silver	200.8	0.022	0.002	5	4/14/05	04/22/05	0.185			1
Thallium	6010B	2.2	0.7	2	4/14/05	04/18/05	81.8	Ī		j:
Vanadium	1		<u> </u>	1 2	4/14/05	04/18/05	99.0	. 	Ť	ĺ
Zinc	6010B	2.2	0.3	<u> </u>	1 3/14/03	0 27 207 00				_!

% Solids: 64.4

LDC #: 13575B4	VALIDATION COMPLETENESS WORKSHEET	Date: <u>6-7-0</u>
SDG #: K2502499	Level III	Page: <u> </u>
Laboratory: Columbia Analytic	cal Services	Reviewer: <u>#G</u>
		2nd Reviewer: w

BW

METHOD: Metals (EPA SW 846 Method 6010B/7000)/200.3

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
l.	Technical holding times	A	Sampling dates: 4-4-05 + 4 rough 4-6-05
11.	Calibration	Α	0
III.	Blanks	5 W	
IV.	ICP Interference Check Sample (ICS) Analysis	SW	
V.	Matrix Spike Analysis	SW	MS
VI.	Duplicate Sample Analysis	SW	Dot
VII.	Laboratory Control Samples (LCS)	A	LCS
VIII.	Internal Standard (ICP-MS)	N	Not reviewed Not utilized
IX.	Furnace Atomic Absorption QC	N	Not utilized
X.	ICP Serial Dilution	SW	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	SW	D=5+6, D=12+ T063-R1-SB01-0-0.5 (SDG: Kasa
XIV.	Field Blanks	N	

Note:

A = Acceptable

N = Not provided/applicable

SW = See worksheet

ND = No compounds detected

R = Rinsate FB = Field blank D = Duplicate

TB = Trip blank
EB = Equipment blank

Validated Samples:

	a 11 3011						
1	TO63-191-SB03-0-0.5	11	TO63-R1-SB02-0-0.5	21	TO63-193-SB03-0-0.5DUP	31	
2	TO63-191-SB01-0-0.5	12	TO63-R1-SB01-0-0.5Dup	22	TO63-R1-SB02-0-0.5MS	32	
3	TO63-191-SB02-0-0.5	13	TO63-PDD-SB01-0-0.5	23	T063-R1-SB02-0-0.5DUP	33	
4	TO63-193-SB01-0-0.5	14	TO63-PDD-SB02-0-0.5	24	PBS	34	
5	TO63-193-SB03-0-0.5	15	TO63-PDD-SB03-0-0.5	25	·	35	
6	TO63-193-SB03-0-0.5Dup	16	TO63-PDD-SB04-0-0.5	26		36	
7	TO63-193-SB02-0-0.5	17	TO63-PDD-SB05-0-0.5	27		37	
8	TO63-SPN-SB02-0-0.5	18	TO63-191-SB03-0-0.5MS	28		38	
9	TO63-SPN-SB02-4-5	19	TO63-191-SB03-0-0.5DUP	29		39	
10	TO63-SPN-SB03-0-0.5	20	TO63-193-SB03-0-0.5MS	30		40	

Notes:	

LDC #: 1357584 SDG #: K2502499

VALIDATION FINDINGS WORKSHEET Sample Specific Element Reference

Page: of Reviewer: MG

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-717	S	Al Sb, As, Ba, Be, Cd Ca, Cr, Co, Cu Fe, Pb Mg, Mn, Hg, Ni K, Se, Ag Na, T, V, Zn, Mo B, Si, CN,
OC 18,19,	1	Al Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu Fe, Pb Mg, Mn, Hg, Ni K, Se, Ag Na, T, V, Zn, Mo B, Si, CN,
20,21		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, (fig) Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
9 00,01		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN ⁻ ,
		Al. Sb. As. Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Analysis Method
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
ICP Trace	S	Al, Sb, As, Ba, Be, Cd Ca, Cr, Co, Cu Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo B, Si, CN,
ICP-MS		Al Sb, As Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb Mg, Mn, Hg, Ni K, Se, Ag Na, Ti V, Zn, Mo, B, Si, CN',
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',

Comments: Mercury by CVAA if performed

											поп				
Analyte	Maximum PB* (mq/Kq)	Maximum PB* (uq/L)	Maximum ICB/CCB* (uq/L)	Blank Action Limit	**Obsessed	3	h	9	7	8	6	0)	All Participation and the Contraction of the Contra	a	
A		<u> </u>													Al
QS P															SS
As															As
Ba															Ba
Be															Be
S			0.6	0.6	0.6	4.0	0.2	0.6	0.3	6.0	0.3	0.3	o.5	0.6	8
Ce															S S
ď															ပံ
පී															රි
5															ಶ
Fe															£
Pb															8
Ma															Mg
Mn	and the state of t												Hard to the state of the state	LA CONTRACTOR CONTRACT	M
Hg			0.138	0.069					0.061		0.044				운
Ē	0.07		3.0	0.25											Z
×										-					×
Se															8°
Ag			6.00-0	60.0											Ag
Na											,				Ng B
			0.005	0.0											F
\ \ \															>
Zn															Zu
8														NAME OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OWNER OF THE OWNER	8
Μ̈́														- The second sec	₩
and the Party of the Persons of the											_		_	_	,

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the dentifications from the Validation Completeness Wester qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: <u>| 3575 B 4</u> SDG #: <u>| 43502 499</u> METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Sample Concentration units, unless otherwise noted: **Wq** /

VALIDATION FINDINGS WORKSHEET

Page: 2 of 2

PB/ICB/CCB QUALIFIED SAMPLES

Soil preparation factor applied: 100 x; Cd 2 xd; LCP-MS 5 x d; l

Reviewer: MG

Sud Reviewer: MG

Associated Samples: all except Hg for # 1 > 15 on 17

Samples with analyte concentrations within five sines the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected. "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element. Z Š 2 Mg As Ba Ве 8 8 ပ် රි æ 윤 Mn 훈 Z × Se Ag S F > 8 S 7 Sample Identification 9 1 \dot{o} 0.0 <u>ه</u> 5 $\langle \cdot \rangle$ $\dot{\circ}$ CR ュ · 0.3 ~ 0.012 0.069 0.022 0.35 Blank Action Limit و 0 Maximum ICB/CCB* 0.005 0.138 6.00.0 (na/r) D . E **0** Maximum PB" (ug/L) Maximum (mg/Kg) 70.0 B Analyte βΉ Se βĝ 툴 Ag Š Ö \overline{c} Fe В Sb As Ba Be Sq Ca Ö Ī

LDC #: (357584 SDG #: K350249 METHOD: Trace Metals IEPA SW 846 Method 6010/7000) Sample Concentration urits, unless otherwise noted:

ď.

Sb As Ba Ве

₹

Page: of Reviewer: MG

Associated Samples: 16, 17

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 100 x

Se Se ξ 뿟 Se Ag ğ = Ba В ਲ ပ္ပ ပိ 3 ů. ď Z ¥ S As Ö ٧ Sample Identification 0.057 -0.082 Blank Action Limit Maximum ICB/CCB* 0.62 (n3/F) Maximum PB* (ng/L) Analyte | Maximum (mg/Kg)

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Ag Na

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13575 By 803 # 303 # 303 # 30

VALIDATION FINDINGS WORKSHEET ICP Interference Check Sample

Page: Lof L Reviewer: MG 2nd Reviewer: MM

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N NA Were ICP interference check samples performed as required?

Y N NA Were the AB solution percent recoveries (%R) within the control limits of 80-120%?

LEVEL IV ONLY:

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations. Y N N/A

*	Date	ICS Identification	Analyte	Finding	Associated Samples		Qualifications	
	·	No ICSAB	Mo-	Not spiked	1, 2, 5-7, 9-13 (~0,0)	No	20kl	
6		->	>	>	3, 4, 8, 14>16 (Fe>90%	1 (JU)	J/P	
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SDG #: K3503499 LDC #: 13575B4

VALIDATION FINDINGS WORKSHEET Matrix Spike Analysis

2nd Reviewer: Page: Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A". $\widehat{\langle Y \rangle_N}$ Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A

Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor

of 4 or more, no action was taken. Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery? Y N N/A Wa LEVEL IV ONLY:

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations. Y N N/A

*	Matrix Spike ID	Matrix	Analyte	%R	Associated Samples	Qualifications
	81) !05	98	34 (70-130)		J/07/A
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Com	Comments:					

SDG #: 1K3503499 LDC #: (3575 B4

VALIDATION FINDINGS WORKSHEET **Duplicate Analysis**

Page:___ Reviewer: 2nd Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Y (N) N/A

Were all duplicate sample relative percent differences (RPD) < 20% for water samples and < 35% for soil samples? If no, see qualifications below. A control limit of ±R.L. (±2X R.L for soil) was used for sample values that were <5X the R.L., including the case when only one of the duplicate sample values was <5X R.L., if field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

Were recalculated results acceptable? See Lavel IV Recalculation Worksheet for recalculations.

-	2001	alcelated 1 cer	مراجع مراجع مراجع				
*	Duplicate ID	Matrix	Analyte	RPD (Limits)	Difference (Limits)	Associated Samples	Qualifications
	61	1;05	Pb	DEX 565) 14		al]	J/U3/A
	A CONTRACTOR OF THE PARTY OF TH		À	(6) 92			
7	and the second s		2	(57) 88	онично воспорти принямення примення принямен	ла него е предпатано от под рекурнения в наменения наменения наменения на предпатанова на пото на наменения на	
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Comn	Comments:						

LDC #: 1357584 SDG #: M3502499

VALIDATION FINDINGS WORKSHEET ICP Seral Dilution

Page: 2nd Reviewer: Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

YN N/A

If analyte concentrations were > 50X the IDL, was an ICP serial dilution analyzed?

YN N/A

Were ICP serial dilution percent differences (%D) \leq 10%?

YN N/A

Is there evidence of negative interference? If yes, professional judgement will be used to qualify the data.

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

*	# Diluted Sample ID	Soil Soil	Analyte	(O 7) 91	ample ID Matrix Analyte %D Associated Samples $S \circ i \mid V \mid b \mid \not= IO) \qquad \alpha \mid I$	Qualifications Jobets/A
C C m	Comments:					

LDC#: 13575B4 SDG#: K2502499

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: Mh

METHOD: Metals (EPA Method 6010B/7000)

YN NA YN NA Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

	Concentrat	tion (mg/kg)		
Compound	5	6	RPD	
Antimony	0.31	0.29	7	
Arsenic	5.24	5.38	3	
Barium	213	133	46	
Beryllium	0.58	0.53	9	
Cadmium	0.7	0.6	15	
Chromium	54.3	61.7	13	
Cobalt	12.9	12.0	7	
Copper	30.5	29.2	4	
Lead	34.0	40.9	18	
Mercury	0.482	0.376	25	
Nickel	47.2	47.2	0	
Selenium	0.3	0.4	29	
Silver	4.810	3.600	29	
Thallium	0.113	0.107	5	
Vanadium	43.7	50.7	15	
Zinc	103	91.4	12	

V:\FIELD DUPLICATES\FD_inorganic\13575B4.wpd

LDC#: 1357584 SDG#: K2502499

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page: lof l Reviewer: MG 2nd Reviewer: MH

METHOD: Metals (EPA Method 6010B/7000)

YN NA YN NA Were field duplicate pairs identified in this SDG?
Were target analytes detected in the field duplicate pairs?

	Concentrat	ion (mg/kg)		
Compound	TO63-R1-SB01-0-0.5	12	RPD	
Antimony	0.23	0.36	44	
Arsenic	2.58	4.03	44	
Barium	198	141	34	
Beryllium	0.76	0.73	4	
Cadmium	0.1U	0.6	200	
Chromium	17.4	27.3	44	·
Cobalt	7.9	9.1	14	
Copper	7.7	14.1	59	
Lead	20.9	44.2	72	
Mercury	0.11	0.356	106	
Nickel	24.2	27.6	13	
Selenium	0.2	0.2	0	
Silver	0.193	1.050	138	
Thallium	0.088	0.091	3	
Vanadium	23.1	29.6	25	-
Zinc	38.1	78.4	69	

V:\FIELD DUPLICATES\FD_inorganic\13575B4b.wpd

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Ballfields Parcels at DoDHF Novato, CA

Collection Date: April 5 through April 6, 2005

LDC Report Date: June 13, 2005

Matrix: Soil

Parameters: Metals

Validation Level: NFESC Level III & IV

Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K2502505

Sample Identification

TO63-R3-SB04-0-0.5 TO63-SPN-SB03-4-5MS TO63-R3-SB04-2-3** TO63-SPN-SB03-4-5DUP

TO63-R3-SB01-0-0.5

TO63-R3-SB01-4-5

TO63-R3-SB02-0-0.5

TO63-R3-SB03-0-0.5**

TO63-R4-SB03-0-0.5

TO63-R4-SB03-3-4

TO63-R4-SB02-0-0.5

TO63-R4-SB01-0-0.5**

TO63-SPN-SB03-4-5

TO63-SPN-SB01-0-0.5

TO63-SPN-SB01-0-0.5 Dup

TO63-SPN-SB01-3-4**

TO63-RSP-SB02-0-0.5

TO63-RSP-SB02-5-6**

TO63-RSP-SB03-0-0.5

TO63-RSP-SB03-5-6

TO63-R3-SB04-0-0.5MS

TO63-R3-SB04-0-0.5DUP

^{**}Indicates sample underwent NFESC Level IV review

Introduction

This data review covers 22 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010, 7000 and EPA Method 200.8 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

The review follows the Final Sampling and Analysis Plan for Preliminary Assessment/Site Investigation of Ballfields Parcels at DoDHF Novato, California, (March 23, 2005) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level IV review. A NFESC Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Nickel	0.07 mg/Kg	All samples in SDG K2502505
ICB/CCB	Copper Mercury Nickel Silver Thallium Zinc	5.9 ug/L 0.188 ug/L 0.14 ug/L 0.009 ug/L 0.005 ug/L 4.0 ug/L	All samples in SDG K2502505

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R3-SB04-0-0.5	Mercury	0.032 mg/Kg	0.032U mg/Kg
TO63-R3-SB04-2-3**	Mercury	0.062 mg/Kg	0.062U mg/Kg
TO63-R3-SB01-0-0.5	Mercury	0.047 mg/Kg	0.047U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R3-SB01-4-5	Mercury	0.032 mg/Kg	0.032U mg/Kg
TO63-R3-SB02-0-0.5	Mercury	0.080 mg/Kg	0.080U mg/Kg
TO63-R4-SB03-0-0.5	Mercury	0.054 mg/Kg	0.054U mg/Kg
TO63-R4-SB03-3-4	Mercury	0.071 mg/Kg	0.071U mg/Kg
TO63-R4-SB02-0-0.5	Mercury	0.041 mg/Kg	0.041U mg/Kg
TO63-R4-SB01-0-0.5**	Mercury	0.047 mg/Kg	0.047U mg/Kg
TO63-SPN-SB03-4-5	Mercury	0.061 mg/Kg	0.061U mg/Kg
TO63-SPN-SB01-0-0.5	Mercury	0.059 mg/Kg	0.059U mg/Kg
TO63-SPN-SB01-0-0.5 Dup	Mercury	0.092 mg/Kg	0.092U mg/Kg
T063-SPN-SB01-3-4**	Mercury	0.047 mg/Kg	0.047U mg/Kg
TO63-RSP-SB02-0-0.5	Mercury	0.072 mg/Kg	0.072U mg/Kg
TO63-RSP-SB02-5-6**	Mercury	0.036 mg/Kg	0.036U mg/Kg
TO63-RSP-SB03-0-0.5	Mercury	0.029 mg/Kg	0.029U mg/Kg
TO63-RSP-SB03-5-6	Mercury Silver	0.016 mg/Kg 0.011 mg/Kg	0.016U mg/Kg 0.011U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
TO63-R3-SB04-2-3** TO63-R4-SB03-3-4 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 Dup TO63-RSP-SB02-0-0.5	Molybdenum	This metal was not spiked in ICSAB.	This metal is potentially affected by common interferents and should be spiked in ICSAB.	J (all detects) UJ (all non-detects)	Р

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
TO63-R3-SB04-0-0.5MS (All samples in SDG K2502505)	Antimony	29 (70-130)	J (all detects) R (all non-detects)	A
TO63-SPN-SB03-4-5MS (All samples in SDG K2502505)	Antimony Zinc	26 (70-130) 29 (51-148)	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	А

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
TO63-R3-SB04-0-0.5DUP (All samples in SDG K2502505)	Zinc	97 (≤30)	-	J (all detects) UJ (all non-detects)	A
TO63-SPN-SB03-4-5DUP (All samples in SDG K2502505)	Barium Zinc	33 (≤30) 57 (≤30)	-	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	А

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits for samples on which a NFESC Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
TO63-R3-SB04-0-0.5L	Zinc	16 (≤10)	All samples in SDG K2502505	J (all detects)	А

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a NFESC Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

Samples TO63-SPN-SB01-0-0.5 and TO63-SPN-SB01-0-0.5 Dup were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra	ation (mg/Kg)	
Analyte	TO63-SPN-SB01-0-0.5	TO63-SPN-SB01-0-0.5 Dup	RPD
Antimony	0.13	0.14	7
Arsenic	8.81	6.15	36
Barium	55.8	55.9	o
Beryllium	0.5	0.6	18
Chromium	94.8	83.6	13
Cobalt	10.0	9.8	2
Copper	34.2	30.5	11
Lead	24.0	19.2	22
Mercury	0.059	0.092	44

	Concentra	ation (mg/Kg)			
Analyte	TO63-SPN-SB01-0-0.5	TO63-SPN-SB01-0-0.5 Dup	RPD		
Nickel	49.2	46.9	5		
Selenium	0.6	0.5	18		
Silver	0.094	0.093	1		
Thallium	0.150	0.141	6		
Vanadium	73.1	76.0	4		
Zinc	91.1	86.3	5		

XIV. Field Blanks

No field blanks were identified in this SDG.

Ballfields Parcels at DoDHF Novato, CA Metals - Data Qualification Summary - SDG K2502505

SDG	Sample	Analyte	Flag	A or P	Reason
K2502505	TO63-R3-SB04-2-3** TO63-R4-SB03-3-4 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 Dup TO63-RSP-SB02-0-0.5	Molybdenum	J (all detects) UJ (all non-detects)	P	ICP interference check
K2502505	TO63-R3-SB04-0-0.5 TO63-R3-SB04-2-3** TO63-R3-SB01-0-0.5 TO63-R3-SB01-0-0.5 TO63-R3-SB03-0-0.5** TO63-R4-SB03-0-0.5 TO63-R4-SB03-0-0.5 TO63-R4-SB03-0-0.5 TO63-R4-SB01-0-0.5** TO63-SPN-SB03-4-5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-3-4** TO63-RSP-SB02-0-0.5 TO63-RSP-SB02-0-0.5 TO63-RSP-SB03-0-0.5 TO63-RSP-SB03-0-0.5	Antimony Zinc	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	Α	Matrix spike analysis (%R)
K2502505	TO63-R3-SB04-0-0.5 TO63-R3-SB01-0-0.5 TO63-R3-SB01-0-0.5 TO63-R3-SB01-0-0.5 TO63-R3-SB02-0-0.5 TO63-R3-SB03-0-0.5** TO63-R4-SB03-0-0.5 TO63-R4-SB03-0-0.5 TO63-R4-SB03-0-0.5 TO63-R4-SB01-0-0.5** TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-3-4** TO63-RSP-SB02-0-0.5 TO63-RSP-SB02-5-6** TO63-RSP-SB03-5-6	Zinc	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	Α	Duplicate analysis (RPD)

SDG	Sample	Analyte	Flag	A or P	Reason
K2502505	TO63-R3-SB04-0-0.5 TO63-R3-SB04-2-3** TO63-R3-SB01-0-0.5 TO63-R3-SB01-0-0.5 TO63-R3-SB02-0-0.5 TO63-R4-SB03-0-0.5 TO63-R4-SB03-0-0.5 TO63-R4-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 TO63-RSP-SB02-0-0.5 TO63-RSP-SB02-0-0.5 TO63-RSP-SB03-0-0.5 TO63-RSP-SB03-0-0.5	Zinc	J (all detects)	А	ICP serial dilution (%D)

Ballfields Parcels at DoDHF Novato, CA Metals - Laboratory Blank Data Qualification Summary - SDG K2502505

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502505	TO63-R3-SB04-0-0.5	Mercury	0.032U mg/Kg	А
K2502505	TO63-R3-SB04-2-3**	Mercury	0.062U mg/Kg	Α
K2502505	TO63-R3-SB01-0-0.5	Mercury	0.047U mg/Kg	А
K2502505	TO63-R3-SB01-4-5	Mercury	0.032U mg/Kg	Α
K2502505	TO63-R3-SB02-0-0.5	Mercury	0.080U mg/Kg	А
K2502505	TO63-R4-SB03-0-0.5	Mercury	0.054U mg/Kg	А
K2502505	TO63-R4-SB03-3-4	Mercury	0.071U mg/Kg	А
K2502505	TO63-R4-SB02-0-0.5	Mercury	0.041U mg/Kg	А
K2502505	TO63-R4-SB01-0-0.5**	Mercury	0.047U mg/Kg	А
K2502505	TO63-SPN-SB03-4-5	Mercury	0.061U mg/Kg	А
K2502505	TO63-SPN-SB01-0-0.5	Mercury	0.059U mg/Kg	А

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502505	TO63-SPN-SB01-0-0.5 Dup	Mercury	0.092U mg/Kg	A
K2502505	TO63-SPN-SB01-3-4**	Mercury	0.047U mg/Kg	А
K2502505	TO63-RSP-SB02-0-0.5	Mercury	0.072U mg/Kg	А
K2502505	TO63-RSP-SB02-5-6**	Mercury	0.036U mg/Kg	А
K2502505	TO63-RSP-SB03-0-0.5	Mercury	0.029U mg/Kg	А
K2502505	TO63-RSP-SB03-5-6	Mercury Silver	0.016U mg/Kg 0.011U mg/Kg	А

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute Service Request: K2502505

Project No.: G486063 Date Collected: 04/06/05

Project Name: Novato Ballfields Date Received: 04/07/05

Matrix: SOIL Units: mg/kg

Basis: Dry

Sample Name: T063-R3-SB04-0-0.5 Lab Code: K2502505-001

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.07		N	IJ
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	1.83]
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	218		*	$ \mathcal{J} $
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.7	В		_
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U		<u> </u>
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	14.3]
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	5.2]
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	7.3]
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	8.97]
Mercury	7471A	0.016	0.008	1	4/11/05	4/12/05	0.032			Jυ
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	ט]
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	17.3]
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	В]
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.106]
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.072]
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	23.0]
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	27.9		*N	J

% Solids: 88.5



-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB04-2-3

Lab Code: K2502505-002

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.08		N	J
Arsenic	200.8	0.47	0.05	5	4/14/05	4/22/05	9.01			<u> </u>
Barium	6010B	0.9	0.2	2	4/14/05	4/20/05	36.6		*	ĮJ
Beryllium	6010B	0.9	0.1	2	4/14/05	4/20/05	0.4	В]
Cadmium	6010B	0.9	0.7	2	4/14/05	4/20/05	0.7	ט		
Chromium	6010B	1.9	0.6	2	4/14/05	4/20/05	88.2			_
Cobalt	6010B	1.9	1.9	2	4/14/05	4/20/05	8.4			
Copper	6010B	1.9	0.8	2	4/14/05	4/20/05	37.6			
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	9.31			<u> </u>
Mercury	7471A	0.018	0.009	1	4/11/05	4/12/05	0.062			u
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/20/05	1.9	U		lu.
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	43.4			
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.6	В		
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.103]
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.145			<u> </u>
Vanadium	6010B	1.9	0.8	2	4/14/05	4/20/05	65.9			_
Zinc	6010B	1.9	0.5	2	4/14/05	4/20/05	88.0		*N]J

% Solids: 59.0

INORGANIC ANALYSIS DATA SHEET

Matrix:

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields SOIL

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Lab Code: K2502505-003 Sample Name: TO63-R3-SB01-0-0.5

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.11		N	
Arsenic	200.8	0.58	0.06	5	4/14/05	4/22/05	6.61			╛
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	144		*]
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.9	'		╛
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	Ū	<u> </u>	╛
Chromium	6010B	2.3	0.7	2	4/14/05	4/20/05	47.1			╛
Cobalt	6010B	2.3	2.3	2	4/14/05	4/20/05	55.8			
Copper	6010B	2.3	1.0	2	4/14/05	4/20/05	20.1		<u> </u>	_
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	10.8		<u> </u>	╛
Mercury	7471A	0.020	0.010	1	4/11/05	4/12/05	0.047			
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	U		╛
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	34.6	<u> </u>	l	
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.4	В		
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	3.140			
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.109			
Vanadium	6010B	2.3	1.0	2	4/14/05	4/20/05	42.4			
Zinc	6010B	2.3	0.6	2	4/14/05	4/20/05	57.3	<u> </u>	*N	

% Solids: 71.6

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

SOIL Matrix:

> Lab Code: K2502505-004 Sample Name: TO63-R3-SB01-4-5

	Analysis			Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Analyte	Method	MRL	MDL							IJ
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.08		N	ļ٦
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	1.68		<u> </u>	⇃.
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	263		*] -
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	1.0			1
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	<u> </u>	_
Chromium	6010B	2.3	0.7	2	4/14/05	4/20/05	15.3			_
Cobalt	6010B	2.3	2.3	2	4/14/05	4/20/05	18.5			Ţ
Copper	6010B	2.3	1.0	2	4/14/05	4/20/05	8.9	<u> </u>		_
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	8.69	<u> </u>		┨,
Mercury	7471A	0.017	0.009	1	4/11/05	4/12/05	0.032] u
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	U		Ţ
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	18.8	<u> </u>]
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	В		_
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	0.361	<u> </u>		╛
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.087			_
	6010B	2.3	1.0	2	4/14/05	4/20/05	25.6]
Vanadium	6010B	2.3	0.6	2	4/14/05	4/20/05	29.6		*N]
Zinc	00105	2.3	1 0.0	<u> </u>	1 -,,	<u> </u>				

% Solids: 87.6

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields SOIL

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Lab Code: K2502505-005 Sample Name: TO63-R3-SB02-0-0.5

Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
200.8	0.06	0.02	5	4/14/05	4/15/05	0.17		N	֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֡֓֓֡֓֡
200.8	0.56	0.06	5	4/14/05	4/22/05	3.87			⇃.
6010B	1.1	0.2	2	4/14/05	4/20/05	120		*]_
6010B	1.1	0.1	2	4/14/05	4/20/05	0.8	В		Ţ
6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	ט]
6010B	2.2	0.7	2	4/14/05	4/20/05	22.1			_
		 	2	4/14/05	4/20/05	7.2]
1		1.0	2	4/14/05	4/20/05	15.0]
			5	4/14/05	4/22/05	25.7			J
1		<u> </u>	1	4/11/05	4/12/05	0.080			$]\mathcal{U}$
		<u> </u>	2		4/20/05	2.2	U]
					4/22/05	25.6			1
l		<u> </u>			1	0.3	В	Ī	İ
		<u>!</u>	ļ		<u> </u>	<u> </u>	<u>: </u>	İ	i
l		 			1	1			1
200.8	0.022	0.002				<u>!</u>	-	 	1
6010B	2.2	1.0	2	4/14/05	<u> </u>	<u> </u>		1	-
6010B	2.2	0.6	2	4/14/05	4/20/05	74.8	<u> </u>	*N] <
	Method 200.8 200.8 200.8 6010B 6010B 6010B 6010B 200.8 7471A 6010B 200.8 200.8 200.8 200.8 6010B	Method MRL 200.8 0.06 200.8 0.56 6010B 1.1 6010B 1.1 6010B 2.2 6010B 2.2 6010B 2.2 200.8 0.06 7471A 0.016 6010B 2.2 200.8 0.22 200.8 1.1 200.8 0.022 200.8 0.022 200.8 0.022 6010B 2.2	Method MRL MDL 200.8 0.06 0.02 200.8 0.56 0.06 6010B 1.1 0.2 6010B 1.1 0.1 6010B 1.1 0.9 6010B 2.2 0.7 6010B 2.2 2.2 6010B 2.2 1.0 200.8 0.06 0.02 7471A 0.016 0.008 6010B 2.2 2.2 200.8 0.22 0.04 200.8 1.1 0.1 200.8 0.022 0.003 200.8 0.022 0.002 6010B 2.2 1.0	Method MRL MDL BIT. 200.8 0.06 0.02 5 200.8 0.56 0.06 5 6010B 1.1 0.2 2 6010B 1.1 0.1 2 6010B 1.1 0.9 2 6010B 2.2 0.7 2 6010B 2.2 2.2 2 200.8 0.06 0.02 5 7471A 0.016 0.008 1 6010B 2.2 2.2 2 200.8 0.22 0.04 5 200.8 1.1 0.1 5 200.8 0.022 0.003 5 200.8 0.022 0.003 5 200.8 0.022 0.003 5 200.8 0.022 0.002 5 6010B 2.2 1.0 2	Method MRL MDL Dil. Extracted 200.8 0.06 0.02 5 4/14/05 200.8 0.56 0.06 5 4/14/05 6010B 1.1 0.2 2 4/14/05 6010B 1.1 0.1 2 4/14/05 6010B 1.1 0.9 2 4/14/05 6010B 2.2 0.7 2 4/14/05 6010B 2.2 2.2 2 4/14/05 6010B 2.2 1.0 2 4/14/05 7471A 0.016 0.008 1 4/11/05 200.8 0.22 0.04 5 4/14/05 200.8 0.22 0.04 5 4/14/05 200.8 0.022 0.003 5 4/14/05 200.8 0.022 0.003 5 4/14/05 200.8 0.022 0.003 5 4/14/05 200.8 0.022 0.002 5 <td>Analysis Method MRL MDL Dil. Extracted Extracted Analyzed 200.8 0.06 0.02 5 4/14/05 4/15/05 200.8 0.56 0.06 5 4/14/05 4/22/05 6010B 1.1 0.2 2 4/14/05 4/20/05 6010B 1.1 0.1 2 4/14/05 4/20/05 6010B 1.1 0.9 2 4/14/05 4/20/05 6010B 2.2 0.7 2 4/14/05 4/20/05 6010B 2.2 2.2 2 4/14/05 4/20/05 6010B 2.2 1.0 2 4/14/05 4/20/05 7471A 0.016 0.008 1 4/11/05 4/12/05 200.8 0.22 0.04 5 4/14/05 4/22/05 200.8 1.1 0.1 5 4/14/05 4/22/05 200.8 0.022 0.003 5 4/14/05 4/22/05</td> <td>Analysis Method MRL MDL Dil. Extracted Extracted Analyzed Result 200.8 0.06 0.02 5 4/14/05 4/15/05 0.17 200.8 0.56 0.06 5 4/14/05 4/22/05 3.87 6010B 1.1 0.2 2 4/14/05 4/20/05 120 6010B 1.1 0.1 2 4/14/05 4/20/05 0.8 6010B 1.1 0.9 2 4/14/05 4/20/05 0.8 6010B 2.2 0.7 2 4/14/05 4/20/05 0.9 6010B 2.2 2.2 2 4/14/05 4/20/05 22.1 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 6010B 2.2 1.0 2 4/14/05 4/20/05 25.7 7471A 0.016 0.008 1 4/11/05 4/12/05 0.080 6010B 2.2 2.2 2</td> <td>Analysis Method MRL MDL Dil. Extracted Analyzed Result C 200.8 0.06 0.02 5 4/14/05 4/15/05 0.17 200.8 0.56 0.06 5 4/14/05 4/22/05 3.87 6010B 1.1 0.2 2 4/14/05 4/20/05 120 6010B 1.1 0.1 2 4/14/05 4/20/05 0.8 B 6010B 1.1 0.9 2 4/14/05 4/20/05 0.8 B 6010B 2.2 0.7 2 4/14/05 4/20/05 0.9 U 6010B 2.2 0.7 2 4/14/05 4/20/05 22.1 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 7471A 0.016 0.002 5 4/14/05 4/22/05 25.7 7471A 0.016 0.008 1 4/11/05 4/20/</td> <td>Analysis Method MRL MDL Dil. Extracted Analyzed Result C Q 200.8 0.06 0.02 5 4/14/05 4/15/05 0.17 N 200.8 0.56 0.06 5 4/14/05 4/22/05 3.87 6010B 1.1 0.2 2 4/14/05 4/20/05 120 * 6010B 1.1 0.1 2 4/14/05 4/20/05 0.8 B 6010B 1.1 0.9 2 4/14/05 4/20/05 0.9 U 6010B 2.2 0.7 2 4/14/05 4/20/05 0.9 U 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 I 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 I 200.8 0.06 0.02 5 4/14/05 4/20/05 25.7 I 7471A 0.016 0.008 1</td>	Analysis Method MRL MDL Dil. Extracted Extracted Analyzed 200.8 0.06 0.02 5 4/14/05 4/15/05 200.8 0.56 0.06 5 4/14/05 4/22/05 6010B 1.1 0.2 2 4/14/05 4/20/05 6010B 1.1 0.1 2 4/14/05 4/20/05 6010B 1.1 0.9 2 4/14/05 4/20/05 6010B 2.2 0.7 2 4/14/05 4/20/05 6010B 2.2 2.2 2 4/14/05 4/20/05 6010B 2.2 1.0 2 4/14/05 4/20/05 7471A 0.016 0.008 1 4/11/05 4/12/05 200.8 0.22 0.04 5 4/14/05 4/22/05 200.8 1.1 0.1 5 4/14/05 4/22/05 200.8 0.022 0.003 5 4/14/05 4/22/05	Analysis Method MRL MDL Dil. Extracted Extracted Analyzed Result 200.8 0.06 0.02 5 4/14/05 4/15/05 0.17 200.8 0.56 0.06 5 4/14/05 4/22/05 3.87 6010B 1.1 0.2 2 4/14/05 4/20/05 120 6010B 1.1 0.1 2 4/14/05 4/20/05 0.8 6010B 1.1 0.9 2 4/14/05 4/20/05 0.8 6010B 2.2 0.7 2 4/14/05 4/20/05 0.9 6010B 2.2 2.2 2 4/14/05 4/20/05 22.1 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 6010B 2.2 1.0 2 4/14/05 4/20/05 25.7 7471A 0.016 0.008 1 4/11/05 4/12/05 0.080 6010B 2.2 2.2 2	Analysis Method MRL MDL Dil. Extracted Analyzed Result C 200.8 0.06 0.02 5 4/14/05 4/15/05 0.17 200.8 0.56 0.06 5 4/14/05 4/22/05 3.87 6010B 1.1 0.2 2 4/14/05 4/20/05 120 6010B 1.1 0.1 2 4/14/05 4/20/05 0.8 B 6010B 1.1 0.9 2 4/14/05 4/20/05 0.8 B 6010B 2.2 0.7 2 4/14/05 4/20/05 0.9 U 6010B 2.2 0.7 2 4/14/05 4/20/05 22.1 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 7471A 0.016 0.002 5 4/14/05 4/22/05 25.7 7471A 0.016 0.008 1 4/11/05 4/20/	Analysis Method MRL MDL Dil. Extracted Analyzed Result C Q 200.8 0.06 0.02 5 4/14/05 4/15/05 0.17 N 200.8 0.56 0.06 5 4/14/05 4/22/05 3.87 6010B 1.1 0.2 2 4/14/05 4/20/05 120 * 6010B 1.1 0.1 2 4/14/05 4/20/05 0.8 B 6010B 1.1 0.9 2 4/14/05 4/20/05 0.9 U 6010B 2.2 0.7 2 4/14/05 4/20/05 0.9 U 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 I 6010B 2.2 2.2 2 4/14/05 4/20/05 7.2 I 200.8 0.06 0.02 5 4/14/05 4/20/05 25.7 I 7471A 0.016 0.008 1

% Solids: 88.1

-1-

INORGANIC ANALYSIS DATA SHEET

Battelle Memorial Institute Client:

Service Request: K2502505

Project No.: G486063

Matrix:

Date Collected: 04/06/05

Project Name: Novato Ballfields SOIL

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB03-0-0.5

Lab Code: K2502505-006

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.24		N	J
Arsenic	200.8	0.60	0.06	5	4/14/05	4/22/05	2.01			
Barium	6010B	1.2	0.2	2	4/14/05	4/20/05	183		*	IJ
Beryllium	6010B	1.2	0.1	2	4/14/05	4/20/05	1.1	В		_
Cadmium	6010B	1.2	0.9	2	4/14/05	4/20/05	0.9	ט		_
Chromium	6010B	2.4	0.7	2	4/14/05	4/20/05	26.6		l	<u> </u>
Cobalt	6010B	2.4	2.4	2	4/14/05	4/20/05	9.1]
Copper	6010B	2.4	1.1	2	4/14/05	4/20/05	25.3]
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	102			<u> </u>
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.095			A
Molybdenum	6010B	2.4	2.4	2	4/14/05	4/20/05	2.4	U		
Nickel	200.8	0.24	0.05	5	4/14/05	4/22/05	28.1			
	200.8	1.2	0.1	5	4/14/05	4/22/05	0.2	В]
Selenium	200.8	0.024	0.004	5	4/14/05	4/15/05	0.056			j
Silver	200.8	0.024	0.002	5	4/14/05	4/22/05	0.068]
Thallium	6010B	2.4	1.1	2	4/14/05	4/20/05	30.3			1
Vanadium			!	2	4/14/05	4/20/05	79.9	Π	*N	Ţ
Zinc	6010B	2.4	0.6	1 4	4/14/02	1 4/20/00			•	1 /

% Solids: 83.8

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB03-0-0.5

Lab Code: K2502505-007

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.66		N]
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	2.33			
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	176		*] 、
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	1.0	В		ļ
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	1.4		<u> </u>	Ţ
Chromium	6010B	2.2	0.6	2	4/14/05	4/20/05	23.2			_
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	9.9	<u> </u>		Ţ
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	27.3			ļ
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	234			┨.
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.054		<u> </u>] [
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U		_
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	32.6		<u> </u>	_
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	В		
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	4.130			_
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.073			
	6010B	2.2	1.0	2	4/14/05	4/20/05	24.7			
Vanadium	6010B	2.2	0.5	2	4/14/05	4/20/05	85.7		*N],
Zinc		<u> </u>			1	<u>. </u>				_

% Solids: 92.6

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Matrix:

SOIL

Basis: Dry

Sample Name: TO63-R4-SB03-3-4

Lab Code: K2502505-008

									1	
Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.16		N	į,
Arsenic	200.8	0.55	0.05	5	4/14/05	4/22/05	7.86			_
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	43.7	<u> </u>	*	֓֞֞֜֞֞֓֞֓֞֓֞֞֜֞֞֓֓֓֞֞֞֞֓֓֡֓֞֞֞֡֓֡֡֡֡֡֡֡֡
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.5			ļ
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	<u> </u>	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	101			_
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	10.5			_
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	32.8		<u> </u>	
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.5			_
Mercury	7471A	0.019	0.009	1	4/11/05	4/12/05	0.071] 8
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	บ		_
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	48.5			
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.4	В]
	200.8	0.022	0.003	5	4/14/05	4/15/05	0.073		ļ]
Silver	200.8	0.022	0.002	5	4/14/05	4/22/05	0.128]
Thallium	6010B	2.2	1.0	2	4/14/05	4/20/05	71.4	Γ		1
Vanadium	6010B	2.2	0.6	2	4/14/05	4/20/05	110		*N	Ī,
Zinc	00103	4.4	1 0.0	<u> </u>	1 -,, -					

% Solids: 64.0

1

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Project name. Novers

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Sample Name: TO63-R4-SB02-0-0.5 Lab Code: K2502505-009

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.67	<u> </u>	N	jj
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	2.07		<u> </u>	<u> </u>
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	214		*	IJ
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.9	В		_
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	ט	<u> </u>	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	29.5	<u> </u>	1]
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	8.1]
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	62.0]
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	162]
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.041			ļμ
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	ט]
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	22.3]
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	В]
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.079]
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.080]
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	27.6]
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	77.5		*N	IJ

% Solids: 90.0

Comments:

/c/10/05

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Lab Code: K2502505-010 Sample Name: TO63-R4-SB01-0-0.5

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N]]
Arsenic	200.8	0.53	0.05	5	4/14/05	4/22/05	1.45		<u> </u>	<u> </u>
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	183		*] .J
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.9	В		<u> </u>
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	ט		J
Chromium	6010B	2.2	0.6	2	4/14/05	4/20/05	17.0			
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	6.7]
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	9.7]
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	16.5			_
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.047			$]\mathcal{U}$
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	ט		j
Nickel	200.8	0.21	0.04	5	4/14/05	4/22/05	21.0]
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	В]
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.042]
Thallium	200.8	0.021	0.002	5	4/14/05	4/22/05	0.075]
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	22.9			
Zinc	6010B	2.2	0.5	2	4/14/05	4/20/05	43.4		*N] J

% Solids: 92.5

.1.

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB03-4-5

Lab Code: K2502505-011

211	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Analyte				<u> </u>		4/15/05	0.07		N	[
Antimony	200.8	0.06	0.02	5	4/14/05				1 14	┤ ~
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	7.73	<u> </u>	<u> </u>	ļ "
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	34.5		*	ĮJ
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.4			1
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	ט	<u> </u>	_
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	74.9			_
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	9.9	•		_
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	26.8		<u> </u>	_[
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	7.48	·]
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.061			ļν
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	ט		_
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	44.5			_
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	В]
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.073		<u> </u>	ļ
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.115	<u> </u>		_
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	58.6			<u> </u>
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	157		*N	IJ

% Solids: 64.1

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix:

SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB01-0-0.5

Lab Code: K2502505-012

	Analysis			Dil.	Date	Date				
Analyte	Method	MRL	MDL	D11.	Extracted	Analyzed	Result	С	Ω	ļ
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13	<u> </u>	N	ļ
Arsenic	200.8	0.53	0.05	5	4/14/05	4/22/05	8.81	<u> </u>	<u> </u>	ļ
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	55.8		*].
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.5	·	<u> </u>	-
Cadmium	6010B	1.1	0.8	2	4/14/05	4/20/05	0.8	U	<u> </u>	_
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	94.8			
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	10.0			
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	34.2]
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	24.0		ļ]
Mercury	7471A	0.019	0.009	1	4/11/05	4/12/05	0.059			1
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	ט		
Nickel	200.8	0.21	0.04	5	4/14/05	4/22/05	49.2			
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.6	В		
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.094		1	
	200.8	0.021	0.002	5	4/14/05	4/22/05	0.150			
Thallium	6010B	2.1	0.9	2	4/14/05	4/20/05	73.1			
Vanadium Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	91.1		*N]

% Solids: 67.4

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Sample Name: TO63-SPN-SB01-0-0.5 DUF

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Lab Code: K2502505-013

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.14	<u> </u>	N	_
Arsenic	200.8	0.52	0.05	5	4/14/05	4/22/05	6.15	<u> </u>		_
Barium	6010B	1.0	0.2	2	4/14/05	4/20/05	55.9	<u> </u>	*	֓֞֓֞֓֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֡֓֓֡
Beryllium	6010B	1.0	0.1	2	4/14/05	4/20/05	0.6			_
Cadmium	6010B	1.0	0.8	2	4/14/05	4/20/05	0.8		<u> </u>	_[
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	83.6			_
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	9.8			_
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	30.5		<u> </u>	_
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	19.2			┨.
Mercury	7471A	0.020	0.010	1	4/11/05	4/12/05	0.092]
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	U		_
Nickel	200.8	0.21	0.04	5	4/14/05	4/22/05	46.9			_
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	В		
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.093]	1	_
Thallium	200.8	0.021	0.002	5	4/14/05	4/22/05	0.141			
Vanadium	6010B	2.1	0.9	2	4/14/05	4/20/05	76.0			
Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	86.3		*N] .

% Solids: 68.1

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

SOIL

Basis: Dry

Sample Name: TO63-SPN-SB01-3-4

Lab Code: K2502505-014

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.06		N	į J
Arsenic	200.8	0.51	0.05	5	4/14/05	4/22/05	4.92			1
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	30.2		*	ĮJ
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.2	; 		ļ
Cadmium	6010B	1.1	0.8	2	4/14/05	4/20/05	0.8	U		_[
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	30.1			_[
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	3.5	<u> </u>		_
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	11.1			_
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	5.38			_
Mercury	7471A	0.020	0.010	1	4/11/05	4/12/05	0.047			<u> </u>
	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	ט		_
Molybdenum	200.8	0.21	0.04	5	4/14/05	4/22/05	17.3]
Nickel .	200.8	1.0	0.1	5	4/14/05	4/22/05	0.2	В]
Selenium	200.8	0.021	0.003	5	4/14/05	4/15/05	0.032			Ī
Silver			0.003	5	4/14/05	4/22/05	0.080			1
Thallium	200.8	0.021	<u> </u>	<u> </u>		4/20/05	27.0	i —	İ	i
Vanadium	6010B	2.1	0.9	2	4/14/05			. 	*N	1 1
Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	33.0	I	1.14	7 ~

% Solids: 79.4

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Lab Code: K2502505-015 Sample Name: TO63-RSP-SB02-0-0.5

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N	
Arsenic	200.8	0.51	0.05	5	4/14/05	4/22/05	10.9			<u> </u>
Barium	6010B	1.0	0.2	2	4/14/05	4/20/05	39.6		*	J
Beryllium	6010B	1.0	0.1	2	4/14/05	4/20/05	0.3	В		_
Cadmium	6010B	1.0	0.8	2	4/14/05	4/20/05	0.8	ַ		_
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	76.6]
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	7.0]
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	34.2]
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.9			
Mercury	7471A	0.016	0.008	1	4/11/05	4/12/05	0.072			$\rfloor \mathcal{V}$
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	U]
Nickel	200.8	0.20	0.04	5	4/14/05	4/22/05	28.3]
Selenium	200.8	1.0	0.1	5	4/14/05	4/22/05	0.7	В]
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.096]
Thallium	200.8	0.020	0.002	5	4/14/05	4/22/05	0.114			
Vanadium	6010B	2.1	0.9	2	4/14/05	4/20/05	61.2			
Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	65.6		*N	J

% Solids: 69.1

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Basis: Dry

Matrix:

SOIL

Sample Name: TO63-RSP-SB02-5-6

Lab Code: K2502505-016

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	-
	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N],
Antimony	200.8	0.59	0.06	5	4/14/05	4/22/05	2.82			_[
Arsenic	6010B	1.2	0.2	2	4/14/05	4/20/05	45.9		*].
Barium			0.1	2	4/14/05	4/20/05	0.8	В		1
Beryllium	6010B	1.2		2	4/14/05	4/20/05	0.9	Ū		1
Cadmium	6010B	1.2	0.9			4/20/05	19.3	<u> </u>		ĺ
Chromium	6010B	2.3	0.7	2	4/14/05	4/20/05	3.1		i –	1
Cobalt	6010B	2.3	2.3	2	4/14/05		6.3	.	` 	┪
Copper	6010B	2.3	1.1	2	4/14/05	4/20/05	7.69		I T	╣
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	1		<u> </u>	┨
Mercury	7471A	0.017	0.009	1	4/11/05	4/12/05	0.036		 	╣
	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	-	<u> </u>	_
Molybdenum	200.8	0.24	0.05	5	4/14/05	4/22/05	7.57		<u> </u>	_
Nickel	200.8	1.2	0.1	5	4/14/05	4/22/05	0.3	В	1	
Selenium			0.003	5	4/14/05	4/15/05	0.042			
Silver	200.8	0.023		1 5	4/14/05	4/22/05	0.115			٦
Thallium	200.8	0.024	0.002			4/20/05	38.7	İ	†	٦
Vanadium	6010B	2.3	1.1	2	4/14/05	<u> </u>	24.0	<u>. </u>	*N	┪
Zinc	6010B	2.3	0.6	2	4/14/05	4/20/05	1 24.0	<u> </u>	1 41	J

% Solids: 85.0

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Units: mg/kg

Matrix:

SOIL

Basis: Dry

Sample Name: TO63-RSP-SB03-0-0.5

Lab Code: K2502505-017

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.08	<u> </u>	N	ļ .
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.52		<u> </u>	┨_
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	177	<u> </u>	*]_
	6010B	1.1	0.1	2	4/14/05	4/20/05	1.1			_
Beryllium	6010B	1.1	0.9	2	4/14/05	4/20/05	1.0	В		_[
Cadmium	6010B	2.2	0.7	1 2	4/14/05	4/20/05	12.6		<u> </u>	J
Chromium	6010B	2.2	2.2	2	4/14/05	4/20/05	4.6]
Cobalt	6010B	2.2	1.0	2	4/14/05	4/20/05	7.2	Π		1
Copper	200.8		0.02	5	4/14/05	4/22/05	9.30	1		1
Lead		0.06	0.009		4/11/05	4/12/05	0.029			7ι
Mercury	7471A	0.019	<u> </u>	2	4/14/05	4/20/05	2.2	U		j
Molybdenum	6010B	2.2	2.2		4/14/05	4/22/05	15.2	İΤ		i
Nickel	200.8	0.23	0.05	5		4/22/05	0.3	Ìв	<u> </u>	┪
Selenium	200.8	1.1	0.1	5	4/14/05	1	0.074	<u>: </u>	'	┪
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.074	, —	 	┪
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	1		<u> </u>	\dashv
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	25.5	<u> </u>	1 1457	┨.
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	31.8	<u> </u>	*N	_ ∟

% Solids: 88.8

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Date Received: 04/07/05

Project Name: Novato Ballfields

Units: mg/kg

Matrix:

SOIL

Basis: Dry

Sample Name: TO63-RSP-SB03-5-6

Lab Code: K2502505-018

Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
200 8	0.06	0.02	5	4/14/05	4/15/05			N] _
			5	4/14/05	4/22/05	2.77		1].
					4/20/05	27.2		*] -
						0.2	В]
						0.9	Ū]
		<u> </u>	<u> </u>	1		18.6			
		<u> </u>	<u> </u>			2.3	Ū]
			 			6.8			1
6010B	2.3	<u> </u>	<u> </u>		1	5.58			Í
200.8	0.06	l				0.016	В		٦,
7471A	0.019	·		1	<u> </u>	<u> </u>		<u> </u>	j
6010B	2.3	2.3	<u> </u>		<u> </u>	<u> </u>	i –	i –	i
200.8	0.23	0.05	5			<u> </u>	1 11		┪
200.8	1.2	0.1	5		1	l	<u>. </u>	'	\exists_{ℓ}
200.8	0.023	0.003	5			l	-	+	٦,
200.8	0.023	0.002	5	4/14/05		<u> </u>		 	\dashv
		1.0	2	4/14/05	4/20/05	1		 	4
6010B	2.3	0.6	1 2	4/14/05	4/20/05	19.8	<u> </u>	*N	
	Method 200.8 200.8 200.8 6010B 6010B 6010B 6010B 200.8 7471A 6010B 200.8 200.8 200.8 200.8 6010B	Method MRL 200.8 0.06 200.8 0.58 6010B 1.2 6010B 1.2 6010B 2.3 6010B 2.3 6010B 2.3 200.8 0.06 7471A 0.019 6010B 2.3 200.8 0.23 200.8 1.2 200.8 0.23 200.8 0.023 200.8 0.023 200.8 0.023	Method MRL MDL 200.8 0.06 0.02 200.8 0.58 0.06 6010B 1.2 0.2 6010B 1.2 0.1 6010B 1.2 0.9 6010B 2.3 0.7 6010B 2.3 2.3 6010B 2.3 1.0 200.8 0.06 0.02 7471A 0.019 0.009 6010B 2.3 2.3 200.8 0.23 0.05 200.8 1.2 0.1 200.8 0.023 0.003 200.8 0.023 0.002 6010B 2.3 1.0	Method MRL MDL 200.8 0.06 0.02 5 200.8 0.58 0.06 5 6010B 1.2 0.2 2 6010B 1.2 0.1 2 6010B 2.3 0.7 2 6010B 2.3 2.3 2 6010B 2.3 1.0 2 200.8 0.06 0.02 5 7471A 0.019 0.009 1 6010B 2.3 2.3 2 200.8 0.23 0.05 5 200.8 0.023 0.003 5 200.8 0.023 0.003 5 200.8 0.023 0.002 5 6010B 2.3 1.0 2	Analysis Method MRL MDL Dil. Extracted 200.8 0.06 0.02 5 4/14/05 200.8 0.58 0.06 5 4/14/05 6010B 1.2 0.1 2 4/14/05 6010B 1.2 0.9 2 4/14/05 6010B 2.3 0.7 2 4/14/05 6010B 2.3 2.3 2 4/14/05 6010B 2.3 1.0 2 4/14/05 6010B 2.3 1.0 2 4/14/05 200.8 0.06 0.02 5 4/14/05 200.8 0.23 0.05 5 4/14/05 200.8 0.23 0.05 5 4/14/05 200.8 0.023 0.005 5 4/14/05 200.8 0.023 0.005 5 4/14/05 200.8 0.023 0.005 5 4/14/05 200.8 0.023 0.003 5 4/14/05 200.8 0.023 0.003 5 4/14/05 200.8 0.023 0.003 5 4/14/05 200.8 0.023 0.003 5 4/14/05 200.8 0.023 0.002 5 4/14/05 200.8 0.023 0.002 5 4/14/05 200.8 0.023 0.002 5 4/14/05 200.8 0.023 0.002 5 4/14/05 200.8 0.023 0.002 5 4/14/05 200.8 0.023 0.002 5 4/14/05 200.8 0.023 0.002 5 4/14/05	Analysis Method MRL MDL Dil. Extracted Analyzed 200.8 0.06 0.02 5 4/14/05 4/15/05 200.8 0.58 0.06 5 4/14/05 4/22/05 6010B 1.2 0.2 2 4/14/05 4/20/05 6010B 1.2 0.9 2 4/14/05 4/20/05 6010B 2.3 0.7 2 4/14/05 4/20/05 6010B 2.3 2.3 2 4/14/05 4/20/05 6010B 2.3 1.0 2 4/14/05 4/20/05 6010B 2.3 1.0 2 4/14/05 4/20/05 7471A 0.019 0.009 1 4/11/05 4/12/05 200.8 0.23 0.05 5 4/14/05 4/22/05 200.8 0.23 0.005 5 4/14/05 4/22/05 200.8 0.023 0.003 5 4/14/05 4/22/05 2	Analysis Method MRL MDL Dil. Extracted Analyzed Result 200.8 0.06 0.02 5 4/14/05 4/15/05 0.08 200.8 0.58 0.06 5 4/14/05 4/22/05 2.77 6010B 1.2 0.2 2 4/14/05 4/20/05 27.2 6010B 1.2 0.1 2 4/14/05 4/20/05 0.2 6010B 1.2 0.9 2 4/14/05 4/20/05 0.9 6010B 2.3 0.7 2 4/14/05 4/20/05 18.6 6010B 2.3 2.3 2 4/14/05 4/20/05 2.3 6010B 2.3 1.0 2 4/14/05 4/20/05 6.8 200.8 0.06 0.02 5 4/14/05 4/22/05 5.58 7471A 0.019 0.009 1 4/11/05 4/22/05 0.016 200.8 0.23 0.05 5 4/14	Analysis Method MRL MDL Dil. Extracted Analyzed Result C 200.8 0.06 0.02 5 4/14/05 4/15/05 0.08 200.8 0.58 0.06 5 4/14/05 4/22/05 2.77 6010B 1.2 0.2 2 4/14/05 4/20/05 0.2 6010B 1.2 0.1 2 4/14/05 4/20/05 0.9 <td>Analysis Method MRL MDL Dil. Extracted Analyzed Result C Q 200.8 0.06 0.02 5 4/14/05 4/15/05 0.08 N 200.8 0.58 0.06 5 4/14/05 4/22/05 2.77 6010B 1.2 0.2 2 4/14/05 4/20/05 0.2 B 6010B 1.2 0.1 2 4/14/05 4/20/05 0.9 U 6010B 1.2 0.9 2 4/14/05 4/20/05 0.9 U 6010B 1.2 0.9 2 4/14/05 4/20/05 0.9 U 6010B 2.3 0.7 2 4/14/05 4/20/05 2.3 U 6010B 2.3 2.3 2 4/14/05 4/20/05 6.8 200.8 0.06 0.02 5 4/14/05 4/22/05 5.58 6010B 2.3 2.3</td>	Analysis Method MRL MDL Dil. Extracted Analyzed Result C Q 200.8 0.06 0.02 5 4/14/05 4/15/05 0.08 N 200.8 0.58 0.06 5 4/14/05 4/22/05 2.77 6010B 1.2 0.2 2 4/14/05 4/20/05 0.2 B 6010B 1.2 0.1 2 4/14/05 4/20/05 0.9 U 6010B 1.2 0.9 2 4/14/05 4/20/05 0.9 U 6010B 1.2 0.9 2 4/14/05 4/20/05 0.9 U 6010B 2.3 0.7 2 4/14/05 4/20/05 2.3 U 6010B 2.3 2.3 2 4/14/05 4/20/05 6.8 200.8 0.06 0.02 5 4/14/05 4/22/05 5.58 6010B 2.3 2.3

% Solids: 86.2

DG # .abora	:: 13575C4 t: K2502505 atory: Columbia Analytica IOD: Metals (EPA SW 84	al Ser	<u>vices</u>	Le	vel III/I\		WORKSHEE		Date: 6 - Page: 1 o Reviewer: M 2nd Reviewer: M	
	amples listed below were tion findings worksheets.		wed for ea	ch of the fo	ollowing va	alidat	ion areas. Valida	ation findin	gs are noted in attac	
	Validation Area				Comments					
I.	Technical holding times			Α	Sampling dates: 4-5-085 through 4-6-085					
II.	Calibration			Α						
III.	Blanks	Blanks								
IV.	ICP Interference Check San	nple (I0	CS) Analysis	SW						
V.	Matrix Spike Analysis			SW	MS					
VI.	Duplicate Sample Analysis			SW	DUP					
VII.	Laboratory Control Samples (LCS)			4 SW	LCS			,		
VIII.	Internal Standard (ICP-MS)			' A						
IX.	Furnace Atomic Absorption QC			N SW	Not utilized					
Χ.	ICP Serial Dilution	ICP Serial Dilution								
XI.	Sample Result Verification			A	Not reviewed for Level III validation.					
XII.	Overall Assessment of Data	Overall Assessment of Data								
XIII.	Field Duplicates			SW	D = 1	2 +	13			
XIV.	Field Blanks			N						
Note: /alidat	A = Acceptable N = Not provided/applicable SW = See worksheet ed Samples: ** Indicates sam		R = Rin FB = Fi	ield blank	s detected		D = Duplicate TB = Trip blank EB = Equipment b	olank		
1	T063-R3-SB04-0-0.5	11	TO63-SPN-S	B03-4-5	21	TO63	3-SPN-SB03-4-5MS	31		
2	TO63-R3-SB04-2-3**	12	TO63-SPN-S	B01-0-0.5	22	TO63	3-SPN-SB03-4-5DU	32		
3	TO63-R3-SB01-0-0.5	13	TO63-SPN-SB01-0-0.5 D		up 23	PE	35	33		
4	TO63 R3-SB01-4-5	14	TO63-SPN-SB01-3-4**		24			34		
5	TO63-R3-SB02-0-0.5	15	TO63-RSP-SB02-0-0.5		25	ļ		35		
6	TO63-R3-SB03-0-0.5**	16	TO63-RSP-S	SB02-5-6**	26	<u> </u>		36		
7	TO63-R4-SB03-0-0.5	17	TO63-RSP-S	SB03-0-0.5	27			37		
8	TO63-R4-SB03-3-4	18	TO63-RSP-S	SB03-5-6	28			38		

Notes:	

29

30

TO63-R3-SB04-0-0.5MS

TO63-R3-SB04-0-0.5DUP

39

40

TO63-R4-SB02-0-0.5

TO63-R4-SB01-0-0.5**

19

20

LDC #: 13575C4 SDG #: 13503505 Page: 1 of 2Reviewer: MG2nd Reviewer: MG

Method: Metals (EPA SW 826 Method 6010/7000/6020)

mania di man	$\overline{}$			Eindings/Comments
Validation Area	Yes	No	NA	Findings/Comments
l Jechnical holding times	- / 1		 1	
All technical holding times were met.	V		$\mid - \mid$	
Cooler temperature criteria was met.	$oxed{oxed}$			
II. Calibration				
Were all instruments calibrated daily, each set-up time?				
Were the proper number of standards used?	1			
Were all initial and continuing calibration verification %Rs within the 90-110% (80- 120% for mercury and 85-115% for cyanide) QC limits?	/			
Were all initial calibration correlation coefficients ≥ 0.995?	4	<u> </u>		
Was a midrange cyanide standard distilled?				
III; Blanks				
Was a method blank associated with every sample in this SDG?				
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	/			
IV. ICP Interference Check Sample			,	Г
Were ICP interference check samples performed daily?		/		
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	V			
IV Matrix spike/Matrix spike duplicates				T
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		/		
Were the MS/MSD or duplicate relative percent differences (RPD) \leq 20% for waters and \leq 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were \leq 5X the RL, including when only one of the duplicate sample values were \leq 5X the RL.		/		
V. Laboratory control samples	_	Ψ.	+	T
Was an LCS anaylzed for this SDG?	1		 	
Was an LCS analyzed per extraction batch?	1		-	
Were the LCS percent recoverice (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?				
VI. Furnace Atomic Absorption:QC	_			Д
If MSA was performed, was the correlation coefficients ≥ 0.995?			V	
Do all applicable analysies have duplicate injections?			1	

LDC #: 13575C4 SDG #: 13502505

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2 Reviewer: MG 2nd Reviewer: MU

	Yes	No	NA	Findings/Comments
Validation Area	162	110	****	
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%?			/	
Were analytical spike recoveries within the 85-115% QC limits?			V	
VII: HCP Serial Dilution	· /		г	
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the IDL?	√	_		
Were all percent differences (%Ds) ≤ 10%?		V		
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		/		
VIII. Internal Standards (EPA SW 845 Method 6020)				T. T. T. T. T. T. T. T. T. T. T. T. T. T
Were all the percent recoveries (%R) within the 3 0-129% of the intensity	/			
If the %Rs were outside the criteria, was a reanalysis performed?			<u> </u>	
IX. Regional Quality Assurance and Quality Control		1 -	T	I
Were performance evaluation (PE) samples performed?		/	ļ.,	
Were the performance evaluation (PE) samples within the acceptance limits?			ľ	
X. Sample Result Verification		Ι	,	T
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	\mathbb{Z}			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	1		_	
Target analytes were detected in the field duplicates.	\ <u>/</u>	1		
XIII. Field blanks				T
Field blanks were identified in this SDG.			_	
Target analytes were detected in the field blanks.	<u> </u>	<u></u>	1	

LDC #: 13575 SDG #: K2502

VALIDATION FINDINGS WORKSHEET Sample Specific Element Reference

Page: 1 of | Reviewer: MG 2nd reviewer: 411

All circled elements are applicable to each sample.

		T Ameliate Liet (TAI)
Sample ID	Matrix	Target Analyte List (TAL).
1-718	5	Al Sb, As, Ba, Be, Cd Ca, Cr, Co, Cu Fe, Pb Mg, Mn, Hg, Ni)K, Se, Ag Na, II, V, Zn, Mo B, Si, CN,
QC 19,00		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu Fe, Pb, Mg, Mn, Hg, Ni K, Se, Ag, Na, fi, V, Zn, Mo B, Si, CN',
21,22	\downarrow	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni) K, Se, Ag, Na, T, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al. Sb. As. Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al. Sb. As. Ba. Be. Cd. Ca. Cr. Co. Cu. Fe. Pb. Mg. Mn. Hg. Ni, K. Se. Ag. Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al. Sb. As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
 		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, NI, K, Se, Ag, Na, TI, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN',
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Analysis Method
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
ICP	S	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Ti, V, Zn, Mo B, Si, CN,
ICP Trace		Al Sb. As Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb Mg, Mn, Hg, Ni, K, Se, Ag Na, Ti, V, Zn, Mo, B, Si, CN,
ICP-MS	<u> </u>	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
GFAA		[Al, SD, As, Da, De, Cd, Ca, Cl, Cd, Cd, Fe, Fb, mg, mm, mg, m, rd, Co), register and register a

Comments: Mercury by CVAA if performed

LDC #: 13575 C 4 SDG #: 13503505 METHOD: Trace Metals (EPA SW 846 Method 6010/7000) S Sample Concentration units, unless otherwise noted: Mg

VALIDATION FINDINGS WORKSHEET PB/ICB/CCB QUALIFIED SAMPLES Soil preparation factor applied: <u>IOD x ; ICP</u> 3×3に ; ICP-MS 5× 4じ な / 比も, Associatec Samples:

Reviewer: MG 2nd Reviewer: My Page:

1					þ				Salt	Sample Identification	ation				
Analyte	Maximum PB*	Maximum PB*	Maximum ICB/CCB*	Blank Action	_	٦	~	7	5	2	80	6	0)		
A	75XLF	┸	7-18-1												ΑI
ŧ t															gg
As															As
Re															Ba
2 0															æ
3 3															ਲ
3 8															Ca
5 6															Ö
5 6															8
3 8			20	2											ਨ
3 L				9											F.
9 7															Pb
g :	-														Mg
. Mg															Min
Mn			0.188	0.04H	0.032	0.062	0.047	0.032	0.080	0.05H	0.07	140.0	0.047	0.061	ğ
Ž Ž	0.07		0.14	0.35											Z
×														A A A A A A A A A A A A A A A A A A A	ㅈ
Se															Se
Ag			0.004	0.092										A STATE OF THE STA	Ag
Na														And the special of the state of	Na
F			0.005	0.012										THE RESIDENCE OF THE PERSON OF	F
>															>
Zn			4.0	2.0											Zn
8															В
Mo	-														ω
ò															ත්
Samples	with analyte	a concentrati	Sample and properties of the sines the associated ICB, CCB or PB concentration are listed above with the dentifications from the Validation Completeness Worksheet. These sample results Sample and properties of the sample concentration within five sines the associated ICB.	imes the a	ssociated ICI	B, CCB or PB	concentratio	n are listed at	oove with the	dentifications	from the Valid	ation Complet	eness Workshe	eet. These sam	iple result

were qualified as not detected, "U". Note: a - The listed anayte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

SDG #: 13575C4

VALIDATION FINDINGS WORKSHEET PB/ICB/CCB QUALIFIED SAMPLES Soil preparation factor applied: <u>IOO x ; ICP</u> 3xdil ; ICP・MS 5x dil 4、/ Kg Associated Samples:

Page: Oof S Reviewer: MG 2nd Reviewer:

					,				San	Sample Identification	Kion			
Analyte	Maximum PB* (mg/Kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	(3	13	14	15	91	17	8)			
A														Al
Sb														SS
As														As
Ba														Ba
Be														æ
S														ਲ
5 S														ន
ö													•	Ö
රී														8
5			5.9	5.9										8
Fe														臣
Pb														8
Mg														Mg
Mn													THE PERSON NAMED OF PERSONS NAMED OF PERSONS NAMED OF PERSONS NAMED OF PERSONS NAMED OF PERSONS NAMED OF PERSONS NAMED OF PERSON NAMED OF PERS	₽
Hg			0.88	0.094	0.059	0.092	0.047	0.072	950.0	0.039	0.016			뫼
Ē	0.07		0.14	0.35										Z
×														×
Se													- Constitution of the Cons	&
Ag			0.004	0.092							0.011			Ag
Na														Ş.
F			0.005	0.012									wy so processor eloquater (III) (d.III) in the	
>														>
Zn			4.0	4.0										Z
. 8													**************************************	8
Ma													Control of the Contro	₩
ò				S d										గు

were qualified as not detected, "U". Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 13575C4 SDG #: K2502505

VALIDATION FINDINGS WORKSHEET ICP Interference Check Sample

Page: 1 of 1 Reviewer: 16 2nd Reviewer: ਅਪ

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y. A. NNA

Were ICP interference check samples performed as required?

Were ICP and a Solution percent recoveries (%R) within the control lmits of 80-120%?

LEVEL IV ONLY:

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

	nojtoviji nobi 301	Anolyto	Su Full	Accordated Samples	Qualifications
# C	No ICSAB	W W	Not spike	11.327 9311 14	0 N
Annual Control of Cont				16-718 (<90%)	
re	-5>	->	>	2,8,12,13,15 (Fe>90%	0%) J/OJ/P
		,			
	-				
	TO COMPANY OF THE PROPERTY OF				
				-	
ACADA DE CONTRACTOR DE CONTRAC					
Comments:					

SDG #: K2502505 LDC #: 13575CU

VALIDATION FINDINGS WORKSHEET Matrix Spike Analysis

Page: of Reviewer: 2nd Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

NA. N/A. Was a matrix spike analyzed for each matrix in this SDG?

Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor Y N N/A

of 4 or more, no action was taken. Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery? Y (N N/A Was LEVEL IV ONLY:

Y N N/A Wer

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

L							
*	Matrix Spike ID	Matrix	Analyte	•	8 8	Associated Samples	Qualifications
	5	Soil	9S) 60	(70-130)	all	J/R/A
ŀ			-				
6) C		5.b	96	→		
	->	>	Z N	39 (51-148)	Ŋ	
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Comments:

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LDC #: 13575 CH SDG #: K3502505

VALIDATION FINDINGS WORKSHEET **Duplicate Analysis**

Page: Reviewer: 2nd Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a duplicate sample analyzed for each matrix in this SDG? Y N N/A

Were all duplicate sample relative percent differences (RPD) < 20% for water samples and < 35% for soil samples? If no, see qualifications below. A control limit of ±R.L. (±2X R.L for soil) was used for sample values that were <5X the R.L., including the case when only one of the duplicate sample values was <5X R.L.. if field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

			-				
*	Duplicate ID	Matrix	Analyte	RPD (Limits) (5%)	20 Difference (Limits)	Associated Samples	Qualifications
	90	Soil	nΖ	(58=) 16	JW.	all	J/05/A
	AND THE TRANSPORT OF THE PROPERTY OF THE PROPE						44600000
7	6		Ba	33 (
	->	Ŷ	Z w	A) 25		→ >	→ >
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	esses jir prestojičija malje sičazijačant oznativaži ora kristy sob kio trovoga esta implementa						
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خ ا	Comments:						
)							
						***************************************	And the second contract of the second contrac

SDG #: K1502505 LDC #: 13575C4

VALIDATION FINDINGS WORKSHEET ICP Serial Dilution

NO #1 Page: Lof Reviewer: 2nd Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A

LEVEL IV ONLY:

Were recalculated results acceptable? See Lavel IV Recalculation Worksheet for recalculations.

	Qualifications	J dets 14												Processing of the Control of the Con		
Were recarculated results acceptable? See Level IV Recarculation Worksheet for recarculations.	Associated Samples	all							,						4	
Level IV Recalculati	%D	16 (210)														
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Y N N/A Were lecald	Diluted Sample ID							ALIAN SERVICIONES REPUBLICATA PARTICIPA DE LA PROPENSIÓN DE LA PROPENSIÓN DE LA PROPENSIÓN DE LA PROPENSIÓN DE	AND THE PROPERTY OF THE PROPER	·		неавиличноствення отнастивня выполня выполня выполня выполня выполня выполня выполня выполня выполня выполня в	American de la companya de la companya de la companya de la companya de la companya de la companya de la compa			Comments:
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LDC#: <u>13575 C 4</u> SDG#: <u>K 250250</u>5

VALIDATION FINDINGS WORKSHEET

Field Duplicates

Page:_	Lof_L
Reviewer:	MG
2nd Reviewer:	MM

METHOD: Metals (EPA Method 6010B/7000)

ØN NA

Were field duplicate pairs identified in this SDG? Were target analytes detected in the field duplicate pairs?

	Concentra	tion (mg/kg)		
Compound	12	13	RPD	
Antimony	0.13	0.14	7	
Arsenic	8.81	6.15	36	
Barium	55.8	55.9	0	
Beryllium	0.5	0.6	18	
Chromium	94.8	83.6	13	
Cobalt	10.0	9.8	2	
Copper	34.2	30.5	11	
Lead	24.0	19.2	22	
Mercury	0.059	0.092	44	
Nickel	49.2	46.9	5	
Selenium	0.6	0.5	18	
Silver	0.094	0.093	1	
Thallium	0.150	0.141	6	
Vanadium	73.1	76.0	4	
Zinc	91.1	86.3	5	

V:\FIELD DUPLICATES\FD_inorganic\13575C4.wpd

SDG #: K2503505 LDC #: 13575C4

Initial and Continuing Calibration Calculation Verification VALIDATION FINDINGS WORKSHEET

2nd Reviewer: MM Reviewer:__

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found × 100 True

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution True = concentration (in ug/L) of each analyte in the ICV or CCV source

	-				Recalculated	Reported	
Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	%R	%R	Acceptable (Y/N)
1093 1000	ICP (Initial calibration)	Ba	h68h	5000	86	86	>
0954 TCV	GFAX (nitial calibration) $\mathcal{L} \subset \mathcal{P} - \mathcal{M} \mathcal{S}$	Pb	50.17	50.0	001	001	
HOC	CVAA (Initial calibration)	H p	5.47	5.0	60)	109	
1104 CCV5	ICP (Continuing calibration)	00	0.105	500	001	00)	
. 1930 CCV 7	GFAX (Continuing calibration) ∑ C P - M S	Ë	35.73	0.56	(03	103	
1407 CCV1	CVAA (Continuing calibration)	Нg	5.18	2.0	h01	hol	
	Cyanide (Initial calibration)	D					esanda de verda de la companio de la companio de la companio de la companio de la companio de la companio de l
	Cyanide (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 13575C4 SDG #: K3503505

VALIDATION FINDINGS WORKSHEET Level IV Recalculation Worksheet

Page: Lof L eviewer: MG Reviewer: MG 2nd Reviewer: 14M1

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

Where, Found = Concentration of each analyte <u>measured</u> in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).

Ine = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula: $RPD = |S-D| \times 100$ (S+D)/2

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula;

Where, 1 = Initial Sample Result (mg/L) SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5) %D = II-SDRI x 100

	Type of Analysis	Element	Found / S / I (units)	8/1	True / D / SDR (units)	? (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable
I CSAB "	niterial energy Chack	2	447.1	(mg/r)	447.1 (mg/L) 500 (mg/L)	(7/bm)	68	68	(A)(1)
	Laboratory control sample	Be	46.34	(mg/ko)	(mg/")	(mg/L)	- 2.0)	***
1453 ME	Matrix spike		(SSB-SP)		1	10	(0.5	103	
		Se	39.05	(mg/kg)	ر - -	("/8m)	99	7	
20 Du	Duplicate	72	27 07	(/ sun)	, ,			50	
6) 11 / h1 11	ICP sorial dilution		10.10	8710	1 81kg 80.52	(b)/(l)	47	. 16	**************************************
		Ba	983.5 (mg/L) 1028.5 (mg/L)	(7 Bm)	1038.5	(mg / m)	7.0	V	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 13575C4 SDG #: K2502505

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

of
MG
MH

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications	below for all	questions answered "N	l". Not applicable	questions a	re identified as "N/A"
---------------------------	---------------	-----------------------	--------------------	-------------	------------------------

Have results been reported and calculated correctly?

N N/A
N N/A
N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?

Are all detection limits below the CRDL?

Detected analyte results for	#	2	Hg	were recalculated	and verified	using the
following equation:						

Concentration =		Recalculation:	
RD = FV = In. Vol. = DII = %S =	(In. Vol.)(%S) Raw data concentration Final volume (ml) Initial volume (ml) or weight (G) Dilution factor Decimal percent solids	$\frac{(0.67 ^{\mu}9/L)(0.100 L)(1)}{(1.85g) (0.590 solid)} = 0.0614$	ug/g or mg/kg

Sample ID	Analyte	Reported Concentration (M9/kg)	Calculated Concentration (Mg / Kg)	Accepta (Y/N
2	56	0.08	0.08	Y
	As	9.01	9.01	***************************************
	Ba	36.6	36.6	
	Be	0.4	.0.4	***
	Cr	88.2	88.2	and the second second
·	Co	8.4	8.4	
	Cu	37.6	37.6	
	ام	9.31	9.31	
	Hq.	0.062	0.061	
	Hg. Ni	43.4	43.4	***************************************
	Se	0.6	0.6	
	Aq	0,103	0.103	
	TI ⁴	0.145	0.145	
	V	65.9	65.9	
	Zn	88.0	88.0	<u> </u>
			;	
				